

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA
RICHMOND DIVISION

- - - - -
 UNITED STATES OF AMERICA)
 v.) Criminal No.
 OKELLO T. CHATRIE) 3:19CR130
 - - - - -) March 4, 2021
 - - - - -)

DAY ONE

COMPLETE TRANSCRIPT OF MOTION TO SUPPRESS
BEFORE THE HONORABLE M. HANNAH LAUCK
UNITED STATES DISTRICT JUDGE

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E X H I B I T S

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DEFENDANT'S EXHIBITS:

Page

16 No. 1 Geofence Warrant and Application 27

17 No. 2 Google Amicus Curiae Brief 200

18 No. 3 PDF of Raw Data 34

19 No. 5 Three Paths Video 61

20 No. 6 Spencer McInvaille Report 75

21 No. 7 McInvaille Supplemental Report 81

22 No. 8 CSV Google Data File 120

23 No. 11 September 2018 Oracle Submission 92

24 No. 21 McGriff Declaration 1 52

25 No. 23 McGriff Declaration 3 73

E X H I B I T S

		Page
DEFENDANT'S EXHIBITS: (Cont'd)		
No. 27	Every Step You Take	96
No. 30	AZ Ex. 18	255
No. 31	AZ Ex. 19	258
No. 32	AZ Ex. 20	249
No. 33	AZ Ex. 24	250
No. 34	AZ Ex. 202	252
No. 36	AZ Ex. 209	243
No. 38	AZ Ex. 219	227
No. 40	AZ Ex. 236	245
No. 43	2018 Privacy Policy - Redline	261
No. 46	McGriff Blog 1	219
No. 47	McGriff Blog 2	218
No. 48	2018 Quartz Article	85
No. 49	2018 AP Article 1	225
No. 53	Blumenthal-Markey Letter to FTC	233
GOVERNMENT'S EXHIBITS:		
No. 1	CAST Report	32

1 (The proceedings in this matter commenced at
2 9:30 a.m.)

3

4 THE CLERK: Case No. 3:19CR130, United States
5 of America versus Okello Chatrie.

6 The United States is represented by Kenneth
7 Simon, Peter Duffey, and Nathan Judish.

8 The defendant is represented by Paul Gill,
9 Laura Koenig, and Michael Price.

10 Are counsel ready to proceed?

11 MR. SIMON: The United States is ready, Your
12 Honor.

13 MS. KOENIG: The defense is ready, Your
14 Honor.

15 THE COURT: Okay.

16 MS. KOENIG: Before we begin --

17 THE COURT: Okay. I'm aware that we have
18 counsel for Google here. I don't know if you want to
19 just state your name on the record because that you
20 will be representing witnesses that come forward.
21 It's really up to you.

22 MS. CARROLL: Thank you, Your Honor.
23 Catherine Carroll, present on behalf of Google.

24 THE COURT: Thank you.

25 MR. CARROLL: Thank you.

1 THE COURT: All right. Well, I understand
2 that you all have handled some logistics, that the
3 defense will begin presenting evidence first. I'll
4 hear any introductory remarks that either side wants
5 to present. And I think there's something else you
6 wanted to address, and I can't remember.

7 MS. KOENIG: Yes, Your Honor. We have a
8 modified sequestration order that the parties have
9 agreed to that we're asking the Court to enter. Shall
10 I just come to the podium?

11 THE COURT: Yes.

12 MS. KOENIG: Each party has an advisory
13 witness. The defense will designate Spencer
14 McInvaille, who's our expert, as our advisory witness,
15 and ask that he be allowed to remain in the courtroom
16 throughout the proceedings.

17 The government, I understand, will be
18 designating Detective Hylton, who is their case agent
19 as their advisory witness. The government also has an
20 additional expert, Agent D'Errico, and so he will also
21 be allowed to remain in the courtroom in an expert
22 capacity. But we are asking that the witnesses, in
23 order that the witnesses -- any other witnesses not be
24 allowed to be in the courtroom, except for during
25 their testimony.

1 THE COURT: All right.

2 MS. KOENIG: And then the last piece of it is
3 that the witnesses are not allowed to discuss their
4 testimony with other witnesses.

5 THE COURT: Right. And, obviously, counsel
6 aren't allowed to talk about testimony that's coming
7 in.

8 MS. KOENIG: So that is -- that's the
9 modification, Your Honor, is that the parties have
10 agreed that counsel will be able to talk to witnesses,
11 but the witnesses will not be able to talk to each
12 other.

13 THE COURT: So that includes Google?

14 MS. KOENIG: Correct.

15 THE COURT: All right. Now, I'm going to ask
16 you to spell the names on the record because I know
17 Hylton is spelled differently than a court reporter
18 might think, and just to be sure that we get
19 everything correct.

20 MS. KOENIG: Sure. The defense expert is
21 Spencer McInvaille. M-c-I-N-V-A-I-L-L-E. And
22 Detective Hylton is H-Y-L-T-O-N. And Agent D'Errico,
23 I don't believe there's an apostrophe. Oh, there is.
24 Okay. D-apostrophe-E-R-R-I-C-O. The spelling of the
25 agent was not my preparation today. Thank you.

1 THE COURT: Does the government have anything
2 to add?

3 MR. SIMON: Nothing from us, Judge.

4 THE COURT: All right. So we will enter the
5 modified sequestration order. Obviously, counsel will
6 be responsible in making sure that their witnesses
7 know not to speak to each other. My bet is they
8 already know that, given the counsel that we have in
9 front of us. And we'll certainly allow the experts to
10 hear the evidence as it goes in. That's not uncommon
11 and will, I think, serve the interests of the hearing
12 overall.

13 Do we have folks calling in or not?

14 THE CLERK: Yes, ma'am. I have the line set
15 up, but it doesn't appear that anybody is on there at
16 this time.

17 THE COURT: Okay. So I want you to know
18 we've had some folks ask to call in on an AT&T line.
19 Of course, it's as if we're in open court. I've
20 okayed that. If you are aware of anybody who you know
21 who is calling in, I'm going to require counsel to
22 inform them of our Local Rule 53 and the standing
23 order that they cannot record or transmit or give any
24 kind of broadcast of this hearing. We are in the
25 hearing. Ms. Daffron will create our record. And

1 especially with an AT&T line, it's a little odd, and
2 we're only really doing this because of COVID. I just
3 want to be sure that they are aware that even if they
4 sort of want to save something to tell a friend, or
5 somebody who might have an interest in the case, they
6 just cannot. They can order a transcript, but they
7 can't do anything more than that.

8 MS. KOENIG: Your Honor, I will tell the
9 Court that we expect that several members of the NACDL
10 staff --

11 THE COURT: So you have to talk slower and
12 say N-A-D-C-L more clearly.

13 MS. KOENIG: Thank you. I expect that
14 several members, staff members, of NACDL, which is the
15 organization that Mr. Price works for, will be calling
16 in. We are a little surprised they haven't called in
17 already. But they have already been instructed not to
18 do any recordings or --

19 THE COURT: We'll say it to anybody who does
20 call in.

21 THE CLERK: Hopefully, he can hear us.

22 THE COURT: Can we confirm that he can?

23 THE CLERK: Mr. Shoop, can you hear us? No.

24 THE COURT: So we have somebody from NBC
25 calling in?

1 THE CLERK: Yes.

2 THE COURT: I want to be sure that that
3 person knows. I have to announce that so he or she
4 can hear it, too.

5 THE CLERK: It is NBC Universal.

6 THE COURT: Okay. NBC Universal. My
7 apologies for the delay.

8 MR. PRICE: Your Honor, we just got word that
9 lots of people are on the line considering the beeps,
10 but no one can hear anything.

11 THE COURT: They can't hear.

12 THE CLERK: All right. I'm going to have to
13 call Martin.

14 THE COURT: All right. So we have to get our
15 IT involved. While we're waiting, what I'd like to be
16 sure is that we put on the record the motion we're
17 taking evidence for and other sort of just standard
18 things.

19 MS. KOENIG: Yes, Your Honor. I don't expect
20 that the defense will have any introductory remarks.
21 We will be prepared to go straight into evidence. But
22 this is an evidentiary hearing that is in support of
23 the motion to suppress the evidence obtained pursuant
24 to the geofence warrant, and that is ECF 29, for which
25 there has been a lot of subsequent briefing.

1 THE COURT: Now, you definitely can't speak
2 that quickly, and I didn't hear at all what you said
3 at the end.

4 MS. KOENIG: Sorry. For which there has been
5 a lot of subsequent briefing.

6 THE COURT: Right. Okay.

7 So while we're waiting also, I want you to
8 know we've gone through a lot of COVID protocol
9 together. I can see that you all have been very
10 mindful of it and will continue to be. I'm going to
11 ask you to continue to be, certainly, all through this
12 process.

13 We have a jury trial going on in a courtroom
14 on this floor. And so what I want you all to do is
15 not move in the hallways unless someone has allowed
16 you to do it. We're trying to make sure that traffic
17 is not congested so that, I guess, we don't lead into
18 COVID congestion.

19 We can only do two people in an elevator at
20 any one time. And we really are coordinating on the
21 sixth floor, and a little bit on the seventh floor,
22 with how we're moving people around. So, certainly,
23 if you have any witnesses who are not in the
24 courtroom, be sure they know that, too. Our biggest
25 issues with COVID have been, understandably probably,

1 I don't want to the say anything too negative, but
2 bored witnesses waiting for their time to be called
3 and then sort of wandering around. And we just can't
4 have that. So I'll appreciate your indulgence in
5 that, too.

6 This is our simplest technology. I have
7 never had an AT&T conference call not work. My
8 apologies. They are only hearing us in binary
9 language of beeps. I guess we need an interpreter. (
10 (IT is here now.)

11 THE CLERK: You can tell your folks they
12 might have to call in again.

13 OPERATOR: Welcome to AT&T's teleconference
14 service. Please enter your access code followed by
15 the pound sign. There are 12 participants on the call
16 including you.

17 MR. PRICE: I'm just letting them to know to
18 call back.

19 THE CLERK: Okay. Can the people on the call
20 hear us? Can somebody say something?

21 AN UNIDENTIFIED PERSON: Yes, we can hear
22 you.

23 THE COURT: Thank you all.

24 All right. I understand now that folks who
25 have called in on the AT&T line can hear us. We've

1 had some introductory scheduling issues taken care of
2 about witnesses and presentation of evidence.

3 I also informed folks here, and I'm going to
4 inform folks listening in on the AT&T line, that our
5 Local Criminal Rule 53 and our standing order
6 prohibits any kind of broadcasting or telecasting or
7 recording of these events. Of course, you're welcome
8 to listen in, but it is just as if you were in the
9 courtroom itself.

10 We have one court reporter, who is making the
11 single record that we will have of this proceeding.
12 And it is a violation of our rules to in any way make
13 a different or separate recording or record.

14 Can everybody hear me say that? Is there
15 anybody on the AT&T call?

16 UNIDENTIFIED PERSON: Yes.

17 THE COURT: All right. So you all are on
18 notice as to that?

19 UNIDENTIFIED PERSON: Yes.

20 THE COURT: All right. Okay.

21 So I will allow the defense to begin
22 presenting evidence. I guess I want to confirm, is
23 this a continuation of evidence that we heard with
24 respect to discovery, the request for discovery, or is
25 this a whole new record?

1 MR. PRICE: Your Honor, we will be repeating
2 some of what we did in the discovery hearing but not
3 all of it, so it's a continuation. There will be a
4 little bit of repetition, but hopefully not too much.

5 THE COURT: Right. That's fine. I just want
6 to make sure that both sides -- is the government in
7 agreement that you're actually referring to both
8 hearings as far as the evidence that I'm taking into
9 consideration?

10 MR. SIMON: Judge, I think we asked that the
11 Court certainly can consider that, but the record on
12 appeal, I think, in this case will be about the
13 evidence received at this particular hearing. And so
14 we don't necessarily think that the transcript from
15 the discovery hearing should override or overtake
16 anything today. So we'd say focus on the evidence
17 received here today, including from their expert
18 Spencer McInvaille. But, you know, both sides may
19 refer back to that testimony.

20 THE COURT: Well, that's my question. I
21 don't want disputes about what I can take into account
22 or what I can't take into account. You've been
23 agreeing about the important issues, but it's easier
24 to sort of set the parameters from the start rather
25 than not.

1 MS. KOENIG: Sure. Your Honor, from the
2 defense perspective, we have learned a lot of
3 information from the time of today past January 2020.
4 So to some extent, some of the issues that we talked
5 about before, like some of the exhibits that we have
6 on our exhibit list that we intend to introduce today,
7 we took to heart the Court's direction that we
8 shouldn't rely on past exhibits. So we are going to
9 be referring and admitting those separately today.

10 There may be a couple of points that we may
11 not spend as much time on, like, for example, the
12 three paths video we spent quite a bit of time at the
13 discovery hearing on. And we may not go too much in
14 depth on that simply just to save time because we have
15 a lot of witnesses and a lot of material to move
16 through. But to the extent there is something
17 different or contradictory or something that is
18 changed, of course, today's record would control
19 simply because at least the defense has moved well
20 beyond where we were information-wise from January
21 2020.

22 THE COURT: Right. Which in part is --
23 although we've had, for lots of technological reasons
24 and pandemic reasons and making sure we can have
25 witnesses come in person from other places, we've had

1 delay, but we've also had delay that I think maybe
2 will have available to us a better record.

3 What I'm going to say is that I want you all
4 at the end of today, presuming we go into tomorrow,
5 just meet and get a sense if there's going to be any
6 dispute about what we can turn back to. And if you
7 all want me to make any kind of speedy trial findings,
8 I can do so now. Is that a good way to start or is
9 anybody objecting to the delay that we've had? It's
10 been pretty well documented through our case, and, in
11 fact, Mr. Chatrue has asked for a couple of delays
12 himself.

13 I think we've all been on the same page with
14 respect to it, but if there should be findings on the
15 record, I'm happy to make them.

16 MS. KOENIG: I think all the findings have
17 already been made as to that, Your Honor, and we're
18 just here today ready to move forward. The defense
19 doesn't have any objections to the findings the Court
20 has previously made.

21 THE COURT: Right. Okay.

22 Mr. Simon, you're in agreement?

23 MR. SIMON: Yes, Judge. And I don't think
24 the Court was asking, again, about the record piece;
25 is that right?

1 THE COURT: I'm sorry?

2 MR. SIMON: You weren't asking, again, Judge,
3 about our review of the record, what the Court should
4 consider?

5 THE COURT: No. I think you guys are going
6 to agree. I just want to anticipate before anything
7 gets too old in our minds any piece of evidence that
8 you all think you may disagree about, we'll have a
9 hearing on that, about what to do about it, and we'll
10 do it now, not in two months, is what I'm saying.

11 MR. SIMON: Understood, Judge. And like
12 defense counsel know, concerns about the delay here.

13 THE COURT: Okay. Thank you.

14 All right. So we're ready for the defense to
15 begin.

16 MR. PRICE: Good morning, Your Honor.

17 THE COURT: Good morning.

18 MR. PRICE: Michael Price for Okello Chatrie.
19 The defense would like to call Spencer McInvaille,
20 please.

21 SPENCER MCINVAILLE, called by the defendant, first
22 being duly sworn, testified as follows:

23
24 THE COURT: All right. Now, as you're
25 approaching the podium and the witness stand, you all

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1 may do whatever you wish with respect to your comfort
2 zone with respect to COVID. You may take your mask
3 off as long as nobody here in this room objects. We
4 do have these plastic barriers. We have the
5 sanitizing wipes and hand sanitizer.

6 The only thing I would say is certainly every
7 time you leave any space, clean it off so that if
8 somebody else goes near it or sits there also, it is
9 fresh for them. We try to follow-up on that, too.

10 THE WITNESS: Yes, ma'am.

11 THE COURT: All right.

12 BY MR. PRICE:

13 Q Good morning, Mr. McInvaille. How are you?

14 A Good morning.

15 Q Would you please state your full name for the
16 record.

17 A Spencer McInvaille.

18 Q And can you tell us who you are?

19 A Yeah. I'm a digital forensic examiner with
20 Envista Forensics. I deal with cell phone location,
21 location evidence in general. And I consult with
22 prosecutors, attorneys, and defense counsel on those
23 types of issues.

24 Q Thank you. And you've been previously qualified
25 as an expert in this case in the fields of digital

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1 forensic examinations, global forensics, and cellular
2 location analysis?

3 A Yes, that's correct.

4 Q So I want to start with some basics.

5 THE COURT: So, Mr. Price, I'm going to ask
6 you to move the microphone a little closer to you.

7 And also, Mr. McInvaille, if you could speak
8 into the microphone. That's the way my court reporter
9 hears you. She's not listening to you anywhere other
10 than from her earphones.

11 And I just want to confirm the government has
12 no objection to Mr. McInvaille testifying as an
13 expert; is that correct?

14 MR. DUFFEY: We do not, Judge. Thank you.

15 BY MR. PRICE:

16 Q So I want to start with some basics here. And I
17 want to ask you what sources of location data does
18 Google use to locate phones generally?

19 A Sure. So for locating devices, you're generally
20 going to see GPS data, Wi-Fi locations, Bluetooth
21 locations, and cellular. Those are the main ways that
22 Google would locate a device.

23 Q Can you explain each of those just a little bit?
24 What's GPS?

25 A Sure. GPS is our Global Positioning System using

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1 satellites to locate devices. People commonly
2 associate that with how they navigate around town or
3 go places with their phone.

4 As far as Wi-Fi goes, Wi-Fi access points are
5 points on earth that we use to use data and things on
6 our phones. As they capture where those are on earth
7 based on signal strengths from each of those points,
8 you can relatively locate a device as it pertains to
9 how close it is to a certain access point.

10 As far as cellular goes, similar principle there.
11 We know where the cell towers are. They communicate
12 with a device. And based on signal strengths, you can
13 determine where the device is in relation to the cell
14 phone tower.

15 Q Are there any other sources of location data
16 besides the ones that you mentioned?

17 THE COURT: So, Mr. Price, you're talking
18 really fast.

19 BY MR. PRICE:

20 Q Are there any other sources of location data other
21 than GPS, Bluetooth, cellular, and Wi-Fi?

22 A You can also use, say, IP addresses, too, to
23 locate -- to generally locate someone.

24 Q How accurate are these sources? Maybe you can
25 just talk about each one a little bit.

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1 A Sure. They're going to vary. Cell phone towers,
2 of course, cover very large areas. There are sectors.
3 Each of them cover large areas. While they can,
4 again, generally locate a device, they may not be the
5 most accurate, but they can give us a relative
6 location on earth.

7 Wi-Fi. Wi-Fi only extends so far. So it is going
8 to give you a smaller area than what the cell tower
9 probably could.

10 GPS can be very accurate. We can see that. It
11 can be very accurate. Sub-meter accuracy at times
12 with open skies.

13 THE COURT: Sub-meter or some meter?

14 THE WITNESS: Sub-meter.

15 THE COURT: Thank you.

16 THE WITNESS: Smaller than 1 meter.

17 So each has their own capability of how
18 accurately you can place someone on earth or place a
19 device on earth.

20 Q So when Google is using location information to
21 find a phone, does it matter if someone is inside?
22 Does it still work?

23 A No, it can still locate.

24 Q It still locates people inside or outside?

25 A Yes.

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1 Q What are the -- what does Google do with this
2 data? What are the repositories of location data that
3 Google keeps?

4 A Sure. From my research, they keep this type of
5 data in several ways. So you have Location History
6 being that, as has been described, this journal of
7 location history for a user. That can include each of
8 those sources that we discussed on how information is
9 gathered. And so it associates those with date and
10 times for the device.

11 There's also Google Location Accuracy, which keeps
12 up with some of that information we've talked about
13 before with the access points, where they are on
14 earth, how they make calculations, to make
15 comparisons.

16 THE COURT: Did you say Location Accuracy?

17 THE WITNESS: Yes, ma'am.

18 THE COURT: Okay.

19 I'll let you say that again. I interrupted.

20 THE WITNESS: That's okay.

21 A As far as Google, there's Location History. There
22 is Google Location Accuracy, as well as Web & App
23 Activity also tracks IP addresses, and things like
24 that, web activity application usage for general
25 location.

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1 THE COURT: Can you repeat what Location
2 Accuracy is?

3 THE WITNESS: Sure. So Location Accuracy is
4 going to -- is a repository of data as far as where
5 access points and things like that are located so that
6 it can be compared to other data for location
7 purposes.

8 THE COURT: Thank you.

9 BY MR. PRICE:

10 Q So what does Google do with all of this location
11 data?

12 A Sure. So this location data at this point, just
13 data in general on people and their activities, is a
14 lucrative -- it's a tangible item at this point. It's
15 something that's used for advertising, understanding
16 consumers and their habits, things like that. It's
17 used for advertising, essentially.

18 Q The different kinds of advertising that Google
19 does with this?

20 A Sure. So you have targeted ads from understanding
21 what a person may want to -- you know, their
22 interests. You can also target those ads based on
23 their proximity to certain places. So if a particular
24 business would like to try to generate more activity
25 from the people that live and work around them, they

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1 can try to target those people based on pushing ads to
2 them because of their proximity to that location.

3 Q So if Google offers this advertising service to
4 businesses based on location, do the businesses get
5 the information about user location?

6 A Not to my knowledge. What the end user or the
7 person paying for the advertising service receives is
8 pretty much reporting on how well these ads are
9 converting to revenue for them.

10 Q How would you explain the difference between
11 targeting ads based on location and a law enforcement
12 request for user location data?

13 A So as far as, again, with targeted ads for the
14 business, the business is seeing whether or not their
15 ads are becoming sales, whether or not people in the
16 area that they're trying to pay -- they're paying to
17 hopefully see these ads are coming to their business.

18 As far as in this law enforcement request or these
19 geofence warrants, the difference is, is the return is
20 different. The return is that you are seeing
21 individual users, identifiers about those users, their
22 location, and other information provided. So it's
23 much different.

24 Q So just to clarify. What personally identifiable
25 location information do businesses get when they do

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1 this targeting?

2 A None that I'm aware of.

3 Q So we'll start with an easy one. What's a
4 geofence warrant?

5 A So, a geofence warrant is a request by law
6 enforcement to, in this case Google, to find out the
7 users that are in a specific area. So a circle or box
8 is drawn around a particular area where something
9 happens. A time frame of that incident is also given.
10 And the request is made to Google to find out who was
11 inside of that particular area during the given time
12 frame.

13 Q And did you review the geofence warrant in this
14 case?

15 A Yes.

16 Q So what type of data was searched as a result of
17 the geofence warrant in this case? Which repositories
18 of data?

19 A So Google Location History was the searched area
20 for Google.

21 Q Any others?

22 A No.

23 Q Who decided what kind of information was going to
24 get searched?

25 A From my understanding, Google made the

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1 determination to search Google history -- Location
2 History, I'm sorry.

3 Q So there are three kinds. Google searched one and
4 it was up to them?

5 A From my understanding, yes.

6 Q Could you describe how a geofence warrant works,
7 what the stages are, how it unfolds process-wise, just
8 generally?

9 A Sure. So the warrant is broken up into three
10 steps. Each of those steps gaining more information
11 as you go. So the warrant will spell out each of
12 these steps for the process.

13 So, in Stage 1, a request is made for the
14 geofence. So wherever the place is on earth. In this
15 instance, it was a 150-meter circle, radius circle,
16 that was drawn around a fixed point. And so the
17 Stage 1 request is what users were inside of the
18 circle during a one-hour time period.

19 Q And does it end there?

20 A No. So it goes further into each of the steps.
21 So when that request is made, Google will respond with
22 the location of the users and an identifier for each
23 of the users who were inside of the circle at that
24 time. So that's the steps from asking for Stage 1 to
25 the return of Stage 1. Return of Stage 1 being a

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1 spreadsheet of device IDs, locations, and the dates
2 and times of those locations.

3 So once you have that information, you move into
4 Step 2. Step 2 requires that a determination be made
5 of how many of those users you want to know more
6 information about. In Step 2, what Step 2 allows is
7 contextual data. So it removes the geographical
8 limits as well as the time frame expands. So you get
9 more information about the movements of the people
10 chosen out of Stage 1 about where they moved before
11 and after the original geofence. You end up with that
12 group of people. And now you know where they came
13 from before the incident and then after.

14 Another determination needs to be made, and that's
15 Step 3. Step 3, when you make that request to Google,
16 you're asking for all of the subscriber information or
17 all of the account information for the users that
18 you've selected.

19 So in each step, you have -- you've made the large
20 search of all users. Then you move into Stage 2 of a
21 defined group out of that that you received. And then
22 Step 3, again, another group that you've defined out
23 of that to finally understand and reveal who those
24 people are.

25 Q Thank you. I want to turn to the geofence warrant

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27

1 in this case. Specifically, I'd like to call your
2 attention to what's been marked Defense Exhibit 1.

3 THE COURT: So the record is clear, Exhibit 1
4 is being shown on the screens here in the courtroom.

5 Q Can you tell us what Exhibit 1 is, Mr. McInvaille?

6 A This is the affidavit for a search warrant in this
7 case, the geofence warrant.

8 Q And this is the geofence warrant you reviewed?

9 A Yes, that's correct.

10 Q Thank you.

11 MR. PRICE: I'd like to admit Exhibit 1 into
12 evidence, Your Honor.

13 THE COURT: Any objection?

14 MR. DUFFEY: No objection, Judge.

15 THE COURT: It will be entered.

16 MR. PRICE: Thank you, Your Honor.

17 (Government's Exhibit No. 1 is admitted into
18 evidence.)

19 BY MR. PRICE:

20 Q Okay. So you just explained how geofence warrants
21 work generally. We're looking at the warrant in this
22 case. What happened here? Tell us how this works.

23 A So, again, there's a three-step process outlined
24 in this warrant, as well. Again, a Stage 1, Stage 2,
25 and Stage 3. So here the -- there's a time frame for

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28

1 May 20th of 2019.

2 THE COURT: You have to talk about where
3 you're referring to on the piece of paper because
4 anybody reading this record is not going to have the
5 document in front of them.

6 THE WITNESS: Yes, ma'am. I'm under
7 Attachment 2 of the search warrant.

8 A So it defines the time frame that's going to be
9 searched. So it's May 20th of 2019 from 16:20 hours
10 until, on the same date, 17:20 hours. So a one-hour
11 time period.

12 There's also a geofence drawn around a particular
13 location. So they provide a latitude and longitude of
14 where they're going to draw this radius. That radius
15 was 150 meters. So the Stage 1 of that request was
16 for users located within that circle during that time
17 frame.

18 THE COURT: Now I'm going to interrupt you
19 because it's my job to make sure the record is clear.
20 In Defense Exhibit 1, I have a document behind a
21 signed warrant that says Attachment 1, the place,
22 person or thing to be searched. That has Roman
23 numeral -- not Roman numeral. A numeral 1 at the
24 bottom. And then the document I think you're showing
25 me, there's a version of it that has a page 2. I'm

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29

1 trying to find what you're actually showing me in
2 Exhibit 1.

3 THE WITNESS: I'm on Attachment 2.

4 THE COURT: Got it.

5 THE WITNESS: And it's pages 2 and 3 at the
6 bottom.

7 THE COURT: My apologies.

8 THE WITNESS: No problem.

9 THE COURT: I'm with you now.

10 BY MR. PRICE:

11 Q Okay. So what happened at Stage 1 here,
12 specifically?

13 A So Stage 1 was a request for all Google users for
14 that specific location. So within that circle during
15 the hour time frame on May 20th.

16 Q And what did Google have to do to produce that
17 information?

18 A So from what Google has told us, they require the
19 search of all Location History accounts to complete
20 that search to find out who was inside of that circle.

21 Q Do you know how many that was?

22 A They stated it was numerous tens of millions of
23 accounts.

24 THE COURT: When did they say that?

25 THE WITNESS: That was in, I believe, Mr.

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30

1 McGriff's declaration.

2 THE COURT: I think it's Marlo McGriff.

3 THE WITNESS: That's correct.

4 MR. PRICE: We'll come back to it, Your
5 Honor.

6 THE COURT: All right.

7 BY MR. PRICE:

8 Q So after conducting a search of every Google user
9 with Location History enabled, how many users were
10 then sent back to law enforcement?

11 A Sure. So as a return for Stage 1, 19 unique
12 identifiers were provided with location information
13 for that one-hour time frame.

14 Q Thank you. And what happened after that? What
15 happened in Stage 2?

16 A So a Stage 2 request was made to Google.
17 Initially, a request for contextual data for all 19
18 were made. I believe that request was made more than
19 once. And Google responded saying that that number
20 needed to be reduced before they could respond to the
21 Stage 2 request for contextual data.

22 That number was reduced to, I believe, nine. So
23 nine users had contextual data provided. So that was
24 the data that provides you 30 minutes before the
25 initial time frame and 30 minutes after. So now our

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31

1 time frame has expanded to two hours where there are
2 no geographical limits during Stage 2 so that you can
3 see movement before and after and outside of the
4 original geofence.

5 Q Thank you. And then what happened in Stage 3?

6 A So Stage 3, again, a request was made by law
7 enforcement for the Stage 3 request. In that request,
8 they identified three users to reveal account
9 information for.

10 Q Thank you very much. I would like to show you a
11 slide from the report prepared by the FBI's Cellular
12 Analysis Survey Team, the CAST team, and it's marked
13 as Government's Exhibit 1. I'd like to show you page
14 8. Can you tell us what we're looking at here?

15 A So this is a similar picture to what you see from
16 page 3 of attachment to --

17 THE COURT: Can we just go through the
18 formality? Does the government object to this being
19 placed in evidence since we're taking evidence from
20 it?

21 MR. DUFFEY: We do not, Judge. It's our
22 exhibit. So no objection.

23 THE COURT: Okay. So Government Exhibit 1
24 will be in evidence.

25 MR. PRICE: Thank you, Your Honor.

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32

1 (Government's Exhibit No. 1 is admitted into
2 evidence.)

3 BY MR. PRICE:

4 Q Sorry. What are we looking at here?

5 A So this is a similar picture to what is displayed
6 in the search warrant on attachment to page 3. It
7 shows the actual geofence. So that's the large red
8 circle here. The point in the middle is the reference
9 point that they provided to draw that radius from.
10 And then you see the area that's encompassed by the
11 geofence.

12 Q What are the places immediately implicated by this
13 geofence?

14 A Sure. So you have the Call Federal Bank. You
15 also have the Journey Christian Church. There's the
16 parking lot for the church and bank, and then some of
17 the wooded area surrounding both of those.

18 Q Thank you. Can we go to the next slide, please.
19 So this is the next slide. Can you tell me what
20 places are right outside the geofence as drawn?

21 A Sure. Special Agent -- he was able to identify
22 some of these. And so you can, from his chart here,
23 you can see the apartments. There's two different
24 sets of apartment complexes here. Again, the
25 previously mentioned locations.

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33

1 You have A.M. Davis, Inc., a company that's across
2 the street from the church. You have the Hampton Inn
3 Hotel, which is just outside the church's parking lot.
4 There's restaurants as well as a mini storage facility
5 there.

6 THE COURT: I'm just going to put on the
7 record this is page 9 of the same report of
8 Government's Exhibit 1.

9 Q Okay. I'd like you to take a look at Defense
10 Exhibit 3. If we could bring that up.

11 MS. KOENIG: Your Honor, this is an exhibit
12 that the Court had previously placed under seal. It
13 is the raw data from what Google produced. And so I
14 believe since we are broadcasting to a different
15 courtroom, it may be best to look at the paper copies
16 of this, but it is Defense Exhibit 3.

17 THE COURT: Is there any objection to that
18 from the government?

19 MR. DUFFEY: No objection, Judge.

20 THE COURT: All right. This has been placed
21 under seal because of the potentially identifying
22 information that is within it. And so we will review
23 this document under seal.

24 MR. PRICE: Thank you, Your Honor.

25 Q Can you tell us what is Defense Exhibit 3? What

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34

1 are we looking at?

2 A Yes. So it's the Stage 1 return for the Google
3 geofence. It's the letters from Google telling you
4 what they provided as well as PDF versions of the
5 Excel spreadsheets or CSVs that were from Google.

6 Q So just to clarify, this is the raw data returns
7 from the geofence warrant?

8 A Yes. This is what you would use to look and see
9 where one of these devices was on the map. It
10 provides you with locations and information about what
11 was requested in Stage 1.

12 Q Can we take a look at column A?

13 THE COURT: Okay. We have to move them into
14 evidence.

15 MR. PRICE: Excuse me.

16 Q You reviewed this in preparation for your
17 testimony?

18 A That's correct.

19 MR. PRICE: I'd like to move this into
20 evidence as Defense Exhibit 3, please.

21 THE COURT: Right. Any objection?

22 MR. DUFFEY: No objection.

23 THE COURT: All right.

24 MR. PRICE: Thank you for reminding me.

25 (Defendant's Exhibit No. 3 is admitted into

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35

1 evidence.)

2 Q Can we take a look at Column A, please.

3 A Yes.

4 Q What does it say at the top of Column A?

5 A Column A is defined as device ID.

6 Q What about Columns B and C?

7 A B and C provide us a date and time.

8 Q How about D and E?

9 A D and E are the estimated latitudes and longitudes
10 for those records.

11 Q So tell me more about that. How do those
12 estimated latitude/longitude points relate to the
13 geofence warrant?

14 A Sure. So these specific points -- so latitude and
15 longitude is a reference of a point on earth. And
16 these are the points that fell within the red circle
17 that we previously spoke about. So within the
18 geofence.

19 Q So where that latitude/longitude point is
20 determines whether it gets reported in the geofence
21 warrant returns?

22 A That's correct. So if this point were to have
23 fallen outside of the red circle, it would not be
24 provided. If it falls within the red circle, it is
25 provided.

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36

1 Q Okay. Now, let's look at Column G. What's that
2 column?

3 A That's the maps display radius in meters.

4 Q In that column, there are some numbers, right?

5 A Yes.

6 Q What are those numbers?

7 A That is the estimated radius. So from the
8 estimated latitude and longitude, a circle is then
9 drawn, a radius circle is drawn around that point, and
10 that's the estimation that the device should be within
11 that circle by the estimate.

12 THE COURT: Within the second circle, not the
13 original circle?

14 THE WITNESS: Correct. This circle is drawn
15 around the individual points for that specific user
16 for that specific record.

17 BY MR. SIMON:

18 Q How does Google draw that display radius?

19 A It would -- I don't know how they come up with it.

20 Q How does it appear?

21 A Oh, it appears -- when you draw it on the map, it
22 appears to be the estimated latitude and longitude
23 point in one place with a circle drawn around that to
24 show you the area that the phone could have been in or
25 the device could have been in.

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37

1 Q Google has talked about something called a
2 confidence interval. What's a confidence interval?

3 THE COURT: So you cannot be showing exhibits
4 you're not talking about.

5 MS. KOENIG: Your Honor, that's my fault. My
6 screen is locked, and I can't get out. So if we could
7 unlock my screen, potentially I could get out to the
8 correct exhibit.

9 THE COURT: Okay.

10 THE CLERK: I don't have control of your
11 screen.

12 MS. KOENIG: There's a little lock button on
13 the screen, Your Honor, on the right-hand side, and I
14 was able to change exhibits before that lock appeared.

15 THE CLERK: Where it says "no stream
16 detected"?

17 MS. KOENIG: Right above where it says "no
18 stream detected."

19 THE CLERK: That's been there all along.

20 THE COURT: I just want to be clear, this is
21 still part of Government's Exhibit 1.

22 MS. KOENIG: Correct. I wasn't intending to
23 go to this stage, Your Honor. I was trying to get to
24 the next exhibit, but it is frozen. There we go. All
25 right. Okay.

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38

1 MR. PRICE: All set?

2 MS. KOENIG: Yes.

3 MR. SIMON: Okay. Sorry about that, Your
4 Honor.

5 THE COURT: That's okay.

6 MS. KOENIG: We're down to one paralegal in
7 the Federal Public Defender's Office. I'm serving
8 double duty, and it is not my specialty.

9 THE COURT: Congratulations on having a
10 paralegal.

11 MS. KOENIG: Fair enough.

12 BY MR. PRICE:

13 Q Google has talked about something called a
14 confidence interval. Can you explain to us what a
15 confidence interval is?

16 A Yes. So they described it -- when they estimate
17 the point on earth, so the latitude and longitude, and
18 once they draw that circle around that point, the
19 display radius, they have a rating or a goal of being
20 how confident they are that they made the correct
21 estimation, and that's 68 percent is their goal in
22 determining the location on earth.

23 Q So they're saying -- so just to clarify. They try
24 to be -- rephrase that. Is that a probability that
25 somebody is going to be in there or just a certainty?

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39

1 A It's their goal to be correct 68 percent of the
2 time by estimating this latitude/longitude and drawing
3 a circle around it, and that the phone should be
4 located or the device should be located within that
5 circle.

6 THE COURT: At 68 percent?

7 THE WITNESS: Correct. That's the goal.

8 THE COURT: And you used a phrase "confidence
9 integral"?

10 MR. PRICE: Interval.

11 THE COURT: You've just got to be a little
12 more clear because your witness hasn't said it.

13 MR. PRICE: Sorry.

14 THE WITNESS: Yes. That was their
15 description of their confidence interval in the --

16 THE COURT: Interval not integral?

17 THE WITNESS: Yes, interval. Sorry.

18 THE COURT: Okay. Thank you.

19 BY MR. PRICE:

20 Q Can you tell us what this confidence interval has
21 to do with the geofence warrant? What does it mean
22 for how the results come in?

23 A As far as the results, we have to look at where
24 the point is referenced on earth, the maps display
25 radius, and just understand that even though it

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40

1 provides that radius where the device should be
2 located, it doesn't mean that it's absolutely within
3 that radius either.

4 Q So what does it do to the effective range of a
5 geofence warrant?

6 A It could make it larger.

7 Q I want to show you another slide from the CAST
8 report. This will be Slide No. 20, page 20, of that
9 PDF.

10 THE COURT: So that's Government's Exhibit 1,
11 page 20.

12 MR. PRICE: Thank you.

13 BY MR. PRICE:

14 Q Mr. McInvaille, what are we looking at here?

15 A So, again, the red circle is the original geofence
16 drawn. Each of the pin drops that you see, the blue
17 and the red, indicate that the two differences between
18 either GPS points that were located or Wi-Fi points
19 that were located for a user. I believe this is an
20 aggregation of all of the people for the Stage 1
21 return shown on the map.

22 And each of the blue circles that you see are
23 those display radiuses provided in the records for
24 each of those points.

25 Q So what do those -- those blue circles, that's the

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41

1 display radius?

2 A Yes. That's the estimation that Google has
3 provided for where the device could be based on their
4 estimate for that record.

5 Q What do they tell us about the effective range of
6 the geofence in this case?

7 A Sure. So if you were looking at one of these
8 circles that extends outside of the geofence, so
9 there's a few that you see, you see the larger one,
10 and then you also see the others that encompass the
11 roadway to the right or to the north.

12 Since the device could be anywhere within that
13 circle, if the estimated latitude and longitude is off
14 enough that it places the device inside the circle,
15 even though it was not, that device is now included in
16 this return even though the device never actually
17 traveled within the circle.

18 Q So I want to take a look at that big blue circle
19 there. What is that?

20 A That's a -- I believe that was the largest display
21 radius provided for one of the records in the Stage 1
22 return.

23 THE COURT: Do you believe it or it is?

24 THE WITNESS: It is.

25 Q And what was the display radius for that point?

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42

1 A 387 meters.

2 Q How does that compare to the size of the radius
3 for the geofence as drawn?

4 A You can see from the map that it's roughly twice
5 if not just a little bit larger than the original red
6 circle. So the geofence circle.

7 Q So the radius is about twice as large?

8 A Yes, if not just a little more than twice.

9 Q What about the area covered by that?

10 A As far as like the squared area?

11 Q Yes.

12 A It would be a much larger area when you talk about
13 area. Just expanding that circle greatly increases
14 the actual area that would be compassioned by that
15 circle.

16 Q So I promised I wouldn't make you do math on the
17 stand.

18 THE COURT: You know, you're talking to him,
19 but we need to hear you. And so it is more formal --

20 MR. PRICE: You can't hear me?

21 THE COURT: I can't hear you.

22 MR. PRICE: I said I promised Mr. McInvaille
23 I wouldn't make him do math on the stand on the fly.

24 BY MR. PRICE:

25 Q So I'm just going to say the area of the geofence

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43

1 as drawn, did you calculate that at some point?

2 A I did.

3 Q And was it approximately 71,000 meters squared?

4 A That's correct.

5 Q And the area of the large blue circle, did you
6 calculate that area at some point?

7 A I did. So the larger was, I recall, to be about
8 470,000 meters.

9 Q Thank you. And --

10 THE COURT: Can you repeat the first one,
11 please. I'm sorry.

12 THE WITNESS: Ma'am?

13 THE COURT: The first, the regular geofence.

14 THE WITNESS: About 71,000 meters, I believe.

15 THE COURT: Okay.

16 BY MR. PRICE:

17 Q And how many times larger is 470,000 compared to
18 71,000?

19 A Roughly, I would say six times.

20 Q About six times?

21 A About six times.

22 Q So is it possible that these map display radiuses
23 could create a false positive?

24 A Yes, if you mean could someone be outside of the
25 original geofence and actually be returned as if they

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44

1 were inside the geofence.

2 Q How would that work?

3 A So if you're traveling by this geofence and the
4 estimation that is made is incorrect enough that --
5 let's just say you're driving down the road here and
6 that your physical device is actually on --

7 THE COURT: How about you name the road?

8 THE WITNESS: I believe it's Price Club
9 Drive.

10 A If you're on Price Club Drive driving past the
11 geofence and you don't actually cross into it, if
12 Google estimates your estimated latitude and longitude
13 to be within the circle, then you would have been
14 included in this return even though the device never
15 traveled within the geofence.

16 THE COURT: Within the blue circle?

17 THE WITNESS: Within the red circle.

18 THE COURT: Okay.

19 BY MR. PRICE:

20 Q So a false positive here would be putting somebody
21 inside the geofence that wasn't there. Is it possible
22 to have a false negative? How would that work?

23 A Sure. So if you -- if the opposite occurred, if
24 you were inside of the geofence, but the estimation
25 was made that your latitude and longitude fell outside

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45

1 of the circle, then you would have not been included.

2 THE COURT: Wait, wait, wait. So why don't
3 you -- so you're saying that if you're inside the
4 original geofence and the estimate is larger than,
5 say, 150 meters, you wouldn't be reported?

6 THE WITNESS: So what causes you to be
7 included is the estimated latitude and longitude. If
8 you kind of leave off the display radiuses, those blue
9 circles, at the moment and just think of the estimates
10 of the point that's given, so the latitude and
11 longitude, if that estimate falls within the geofence,
12 you are included. If that estimate falls outside of
13 the geofence, you are excluded.

14 So the false positive occurs when that
15 estimate is incorrect but actually falls within the
16 fence even though you weren't in the fence. The
17 opposite, the false negative, occurs when the device
18 is actually inside the geofence but the estimate made
19 falls outside the geofence.

20 THE COURT: So I'm looking at Column G in the
21 exhibit that's under seal. In order to return a false
22 negative, would G have to have a number above 150?

23 THE WITNESS: No, no. The false positives
24 and negatives only occur due to D and F. Excuse me, D
25 and E. The display radius is just the error radius

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46

1 drawn around each point. The estimated latitude and
2 longitude is what's critical in determining who will
3 or will not be returned in the geofence originally.

4 THE COURT: So there's nothing in this
5 exhibit, Defense Exhibit 3, that shows you an estimate
6 that could fall outside, a false negative?

7 THE WITNESS: So if the false negative
8 occurred, that means the device would have been inside
9 the geofence. But by the estimate made by Google it
10 fell outside the fence, so they were not returned in
11 this, if that occurred.

12 THE COURT: G reflects the -- tell me what G
13 reflects again.

14 THE WITNESS: G just reflects the blue circle
15 that's drawn around these points. And all that is is
16 the actual confidence that they place on the estimate.
17 So if you see a point on the map with a very small
18 circle, then they're giving you a smaller area that
19 the device could have been in. A larger one, of
20 course, is a larger area the device could have been
21 in.

22 THE COURT: I thought it was reflecting the
23 meters with which the confidence was expressed.
24 That's not true?

25 THE WITNESS: I'm sorry?

McINVAILLE - DIRECT

47

1 THE COURT: I thought it was expressing the
2 meters within which the confidence was expressed. So
3 if it said 50, that it was within 50 meters of the
4 longitude and latitude. That is not correct; is that
5 right?

6 THE WITNESS: That is the estimation. That's
7 what the display radius is for is to understand in
8 relation to the estimated point of how far away the
9 device should generally be from that estimate.

10 THE COURT: Right. So that -- maybe I'm
11 going too far in depth, but if it's more than 150, if
12 the estimate can't fall within 150 meters, it is not
13 going to be reported because the geofence only goes to
14 150 meters.

15 THE WITNESS: Yes, but that reporting occurs
16 because of D and F, not because of G. G is just a
17 further piece of data that's given to us to understand
18 the individual points.

19 THE COURT: Okay. I get it. No one else
20 gets what I get, but I get it. So that's good.

21 MR. PRICE: I might give it one more try.

22 BY MR. PRICE:

23 Q Maybe we can run through a quick hypothetical
24 here. All the blue and red points on this exhibit are
25 inside that red line; right?

McINVAILLE - DIRECT

48

1 A That's correct. So they report it as being within
2 the geofence, so they were returned.

3 Q If we suppose that there was somebody standing
4 right outside of that red circle, maybe at the Ruby
5 Tuesday Restaurant, and they had an error radius -- a
6 delay radius of, say, 100 meters. Would that display
7 radius intersect with the geofence warrant?

8 A It could, but that point wouldn't be returned. If
9 that point is outside of the red circle, then it will
10 not return within this stage of the request.

11 Q And it's also possible if we had somebody whose
12 actual location was inside that geofence, but their
13 radius extended outwards, it's possible that they
14 might be outside that geofence? That they wouldn't
15 actually be at their marker?

16 A It's possible. Like if you look at the point,
17 it's kind of a long point up to the top edge of the
18 red circle as you move north. As you see, that
19 display, the point is within the circle, but the
20 radius actually extends out just a touch over towards
21 the Hampton Inn.

22 The phone actually or the device could be to the
23 outer edge of that circle, which is outside of the
24 geofence.

25 MR. PRICE: Does Your Honor have any

McINVAILLE - DIRECT

49

1 questions further on that point?

2 THE COURT: I will think about it, and I'll
3 ask questions. We have Google folks coming.

4 MR. PRICE: Thank you, Your Honor.

5 BY MR. PRICE:

6 Q So if this big blue circle is the effective range
7 of the geofence, can you tell us which places were
8 encompassed by it?

9 A For this specific device, if that's where the
10 device could be, you have -- again, you have the Price
11 Club Drive, the road, you have Hull Street included,
12 the Mini Price Storage, looks to be a few sets of
13 apartments down here to the south and southeast side
14 of it. The A.M. Davis, Inc., again, that we spoke
15 about. Rockwood Village Apartments is the one I -- I
16 can see it better now. So there's two sets of
17 apartments there, as well, that are included.

18 So this device could have been anywhere around
19 that location.

20 Q Thank you. I'm just going to switch gears here
21 for a second. The government likens the geofence
22 warrant to a tower dump in their briefing. Can you
23 tell us, what's a tower dump? And would it have been
24 useful here?

25 A A tower dump is a similar request. You don't

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50

1 really know what you're asking for. You're making a
2 request to the cell phone carriers for users, their
3 subscribers, that are using towers in the area of,
4 like, for instance, here, in the area of the bank.
5 What they're going to return is spreadsheets that are
6 going to tell you phone numbers that were using those
7 towers that service that area.

8 The kind of point of all that is normally what you
9 have is maybe one or two or more locations where
10 incidents have happened over time. And what you're
11 looking for as a result of these tower dumps is a
12 common number or common numbers that show up in these
13 records.

14 As a result of that, based on the process of
15 elimination and the time of these incidents, if
16 they're far enough apart and unique enough in time
17 frames as far as small time frames, you would only
18 expect if several incidents occur over a three-day
19 period at different locations, that you -- if it's the
20 same person, that you should only see one or two or a
21 group of people working that specific thing. So it's
22 a process of elimination that lets you understand when
23 you don't have a suspect or an unknown group of
24 suspects, it's meant to help you identify those
25 people.

McINVAILLE - DIRECT

51

1 So that's a -- it's a request similar to this. We
2 don't know what we're looking for. We just know that
3 people have phones. So we're hoping that our suspect
4 was using one and that he will be captured within
5 those requests.

6 Q So would it have been useful in this case?

7 A It's difficult to say how useful it would be. You
8 only have one location and date and time. So if you
9 return back a thousand records, and you end up with a
10 thousand phone numbers, you have nothing to compare it
11 to, to really understand who in that group belongs
12 there, lives there, works there, any of that, unless
13 you know the phone number you're looking for.

14 Q Okay. Thank you.

15 Let's go back to the beginning of Stage 1. I
16 think I asked you this earlier, but tell us how does
17 Google know which devices are there?

18 A So within that geofence, again, it's a location on
19 earth. They search the user's location history. So
20 that repository of data of location history for their
21 users and compare that latitude and longitude to see
22 which users fit into that location. So broadly look
23 at the data and pick out the ones that fall within
24 that group.

25 Q So how did you learn about this?

McINVAILLE - DIRECT

52

1 A Through the declarations submitted by Google.

2 MR. PRICE: I'd like to pull up the first
3 McGriff declaration, please. It's Defense Exhibit 21.

4 Q What is this document?

5 A It's the declaration of Marlo McGriff.

6 Q And did you review this in preparation for your
7 testimony today?

8 A I have.

9 MR. PRICE: Your Honor, I'd like to move this
10 into evidence, please.

11 THE COURT: Any objection?

12 MR. DUFFEY: No objection.

13 THE COURT: It will be entered.

14 (Defense Exhibit No. 21 is admitted into
15 evidence.)

16 BY MR. PRICE:

17 Q So Google has to search through everybody in the
18 Location History database. Do you know about how many
19 people that is?

20 A They state numerous tens of millions.

21 Q I'd like to draw your attention to paragraph 13,
22 please. Can you read for us paragraph 13?

23 A Yes. So, "In 2019, the majority of Google users
24 worldwide did not have Location History, LH, enabled
25 on their account. While a more precise percentage is

McINVAILLE - DIRECT

53

1 difficult to calculate in part due to fluctuating
2 numbers of users in 2019, roughly one-third of active
3 Google users (i.e., numbers tens of millions of Google
4 users) had LH enabled on their accounts."

5 Q So to conduct the geofence search in this case,
6 the government had Google search through everyone with
7 Location History enabled and Google estimates that at
8 numerous tens of millions of users?

9 A Correct.

10 Q In your experience, how does that number, numerous
11 tens of millions, how does that compare to other types
12 of warrants seeking location information?

13 A So, for -- you know, when we look at a request for
14 call detail records for a single user, of course,
15 that's a single user, normal Location History request
16 for a specific account when they name the account
17 because we know who we're looking at. Again, that's
18 one user.

19 Probably the only thing comparable would be, say,
20 the tower dump that you asked about earlier. But,
21 again, as far as that number of people, it's not -- it
22 wouldn't be close to that.

23 Q So, I want to turn your attention back to the CAST
24 report. And this is Government's Exhibit 1 at page
25 13. Can you tell us what we're looking at here?

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54

1 A Yes. This is the FBI CAST report, and there is --
2 you see the Sprint towers notated with the yellow kind
3 of antenna sign. You have the Call Federal call out,
4 so showing you where the bank is. You see the red
5 circle for the geofence in there. And then a
6 parameter is outlined with blue here, which they've --
7 which they've indicated as the estimated tower dump
8 area had they conducted one with Sprint here.

9 Q So there wasn't a tower dump in this case, just to
10 clarify?

11 A No. This looks to be a hypothetical of what that
12 would look like if one was conducted.

13 Q How is this hypothetical set up?

14 A So it's showing you three towers that would --
15 that are in proximity to the credit union. Then you
16 also see the geofence there and how it relates to
17 those towers.

18 The blue appears to kind of indicate probably the
19 estimated coverage that you would get from those three
20 towers that are encompassed by the blue polygon. So
21 what it's trying to show you is the area that would
22 likely be affected had that request been made.

23 Q Would the government -- well, let me rephrase.
24 Working with this hypothetical, in your experience,
25 about how many people, how many users, would have

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55

1 their records searched from a tower dump of just one
2 of these towers?

3 A It's hard to say just because you're relying on
4 how many people are using their device at the time,
5 the number of people that you have in that area. I
6 don't -- I have seen in past tower dump data sets a
7 thousand users can be pulled for one of these towers.

8 Q So roughly a thousand for one tower?

9 A Possible.

10 Q And I guess if we're doing three, how many users
11 would that be?

12 A Sure. If you kept that estimate, you'd be looking
13 at, if you kept a thousand being what you think could
14 be encompassed, it could be 3,000 based on three
15 towers.

16 Q So 3,000 for the hypothetical here. How does that
17 number compare to the numerous tens of millions in a
18 geofence warrant?

19 A I don't know that it really does compare, but it's
20 much less than numerous tens of millions.

21 Q I won't make you do any more math.

22 A Thank you.

23 Q I'll change gears here slightly. I want to ask
24 you what this information tells you. What sort of
25 information can you get from Location History data?

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56

1 A From location?

2 Q Yeah.

3 A So with location for a specific person, you can
4 learn a lot about a person. You can learn about their
5 movements, the places that they frequent, places that
6 they frequently travel or places they attend. So, for
7 instance, when people have schedules, where they go to
8 church on Wednesday. You could see if someone
9 commonly goes to one of those particular locations,
10 where they work, where they live, pretty much anything
11 about daily life if you have enough points to look at.

12 Q How many is enough?

13 A How many?

14 Q How many is enough data points?

15 A You wouldn't need too many. You don't need days
16 and days' worth of records. I mean, you can learn a
17 little bit with just a small amount of data. You may
18 not learn everything, but it doesn't take many data
19 points to pick out a way of, you know, just a few
20 locations, only one specific person could likely show
21 up to each of those locations if you know the date and
22 time that they were there. So it wouldn't take much
23 data.

24 Q And how many data points do you think you might
25 need to determine someone's identity?

McINVAILLE - DIRECT

57

1 A With just a handful, again, if you know if
2 somebody shows up at four or five places in any given
3 time, you know the date and time that they were there,
4 pretty much you could learn something about that
5 person.

6 Q So how do you know all this?

7 A I look at location data for a living. It's what I
8 do. It's what I did prior to this job. I was in law
9 enforcement and looked at data to try and get patterns
10 for people's movements.

11 Q Have there been any studies written about this?

12 A Sure. I researched a few studies about Location
13 History and how that information is gathered and used
14 for ads and personalizing stuff to particular people.

15 Q I'd like to turn your attention to what's been
16 marked as Defense Exhibit 9. Can you tell us what
17 this is, please?

18 A Yes. That was a report written. It's called
19 "Unique in the Crowd: The Privacy" -- I'm sorry. The
20 "no stream detected" is blocking. It's an article
21 about location and privacy. "The privacy bounds of
22 human mobility" is the rest of it.

23 Q And this is a report that you reviewed in
24 preparation for your testimony today?

25 A Yes, I've reviewed this.

McINVAILLE - DIRECT

58

1 MR. PRICE: Your Honor, I move to admit this
2 into evidence.

3 THE COURT: Any objection?

4 MR. DUFFEY: Judge, I do object to this. I
5 don't know what the relevance of moving an article in
6 that he didn't write. He can testify about it, that
7 he read it, and talk about it, I suppose. He's an
8 expert. But to move the entire article into evidence
9 as if we all agree it's all factually correct, I have
10 no idea if it's correct. I don't know who the author
11 is. I don't believe Mr. McInvaille knows the author.
12 And so I object to it being moved wholesale into
13 evidence. I don't object to him talking about it if
14 he wants to talk about it. But that's my objection,
15 is to relevance. And it's also quite clearly hearsay.
16 I understand we're at a motion to suppress, and that's
17 the Court's discretion on that. But I just don't
18 understand the relevance of moving entire articles
19 into evidence just because he read them. That's my
20 objection.

21 MR. PRICE: Your Honor, Mr. McInvaille used
22 these reports in the preparation of his reports. They
23 are not being admitted for the truth of the matter
24 even though we are under relaxed rules during our
25 hearing here today. So we believe that it should be

McINVAILLE - DIRECT

59

1 in evidence. This is information that our expert
2 relied on to draw his conclusions.

3 THE COURT: Well, I'm going to overrule the
4 objection, but it's clear that we're not admitting it
5 for the truth of what is in the article. It is a
6 basis for the expert's testimony, and it cannot be
7 admitted wholesale for the purpose of what the
8 government is concerned about, which is that without
9 any other testimony, we don't know anything about the
10 study itself or how it was conducted. So it's really
11 admitted as background information.

12 MR. PRICE: Thank you, Your Honor.

13 BY MR. PRICE:

14 Q Mr. McInvaille, can you tell us what your takeaway
15 was from this report?

16 A Sure. The idea here is that just a few data
17 points are revealing of a person's identity is the
18 gist.

19 Q Do you remember how many were sufficient in this
20 case?

21 A I believe they say four data points can tell you
22 about a person.

23 Q So how long have you been working with location
24 data?

25 A When I began working violent crimes. So probably

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60

1 eight or nine years.

2 Q And in your experience, is that correct, the
3 report's conclusion about the number of data points
4 necessary on average to find somebody?

5 A I mean, it's -- not always is four points
6 indicative of it, but yes, it can be. It depends on
7 those points and what they tell you, but yes.

8 Q So, for instance, in this case, you previously
9 created a video visualizing the geofence data for
10 three users; is that correct?

11 A Yes, that was the Stage 2 return. So that
12 contextual data for some of those users.

13 Q I'd like to show you what's been marked as Defense
14 Exhibit 5. Is this the video you created?

15 A Yes.

16 Q Can you tell us what you did to create it?

17 A Yes. So, just using the latitude and longitude
18 here so that you can understand the paths moving,
19 again, there are display radiuses that go along with
20 these, but this is more to just understand the general
21 movement of these three devices and how they related
22 from -- here what you see in the very beginning of
23 each is where they fell within the geofence. And then
24 as it moves along, it shows you where they were
25 before, during, and then after the geofence for that

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61

1 period of time.

2 Q Thank you.

3 MR. PRICE: Your Honor, I'd like to move this
4 video into evidence.

5 THE COURT: No objection, is there?

6 MR. DUFFEY: No, Your Honor.

7 THE COURT: It's admitted.

8 (Defense Exhibit No. 5 is admitted into
9 evidence.)

10 BY MR. PRICE:

11 Q Can we go ahead and play the video and have you
12 describe slowly what is the happening here?

13 A Sure.

14 (Video is played.)

15 A So, again, you have the -- this is the initial
16 return for this user. So the user ID is in the top
17 left corner, and it shows you where they began in the
18 warrant return.

19 THE COURT: I'm going to put on the record
20 it's not identifying as to an individual; right? This
21 is the Google number?

22 MR. PRICE: No, Your Honor. We previously --
23 that's a time stamp that you're looking at there.
24 That's the number that you see. And for
25 identification purposes, we've been referring to this

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62

1 user or we had in the past as Mr. Green.

2 THE COURT: All right. Mr. Green. Got it.

3 A So in answering that question, the user here
4 starts at this hospital here. And as you will see,
5 they leave that location and travel south towards the
6 geofence. You can see generally the path that they
7 take, and as they travel south, it continues down to a
8 residential area where it finally ends and the -- as
9 far as the data goes that we were provided ends there
10 in this residential area.

11 Q What does it tell you about what -- what do those
12 cluster of dots over a house tell you?

13 A Sure. So you notice that those dots end up
14 stopping at a given point. So here they kind of
15 cluster around a house or a few houses here in this
16 one area, meaning that the --

17 THE COURT: You're going to have to use
18 phrases other than "in this one area," because we have
19 a written record.

20 THE WITNESS: Sorry.

21 THE COURT: Because we have a written record.

22 THE WITNESS: Understood.

23 A So you see that the path had traveled down to this
24 residential area here on the map. There is Decoy Lane
25 is shown. So you see that it's at an address on Decoy

McINVAILLE - DIRECT

63

1 Lane or at least, you know, would be located very
2 close in proximity to a few of these houses here on
3 Decoy Lane.

4 Q Were you able to determine whose residence that
5 is?

6 A I think you could. I looked at tax records and
7 things like that for these houses in the area to take
8 a look and see if based on knowing just the location,
9 that you could possibly determine names for people
10 there in that specific location.

11 Q I won't ask you to put the name on the record, but
12 for Mr. Green, were you able to identify his likely
13 identity?

14 A I was able to find some names for people from that
15 residence for tax records. So, you know, I don't know
16 that they are positively identified, but yes, there's
17 information available for records for that area.

18 Q Would law enforcement have access to the same sort
19 of information?

20 A Yes, this is publicly available information. You
21 can search it on the internet.

22 Q Thank you. Can we resume the video and talk about
23 Mr. Blue?

24 A So, again, blue -- starting here, this would have
25 been the point that was returned for Stage 1 for that

McINVAILLE - DIRECT

64

1 device, and then we will see it move into the Stage 2
2 portion. So before, during, and after the geofence.

3 So you'll see to the bottom left here underneath
4 the geofence there's the apartment complex just to the
5 south. I don't recall the specific name of it, but
6 it's just to the south off of Price Club Drive. So
7 you see that the user's device is located in that
8 complex and then begins to move outside of the complex
9 up north to Hull Street before traveling some more.

10 THE COURT: Can you identify where it starts?
11 You said it starts here in the geofence. What is
12 that?

13 THE WITNESS: So the first point that was
14 referenced from Stage 1 for that user, the point
15 given, the estimated latitude and longitude, was there
16 at the church, the Journey Christian Church.

17 Q Is that the first point in time or just the one
18 that you got first?

19 A I believe that's the point that was given for that
20 user for the Stage 1. And then now you're also seeing
21 the Stage 2 portion of that.

22 Q So this user starts where?

23 A At the apartment complex just to the south of the
24 geofence. So located along the southern side of Price
25 Club Drive just south of the geofence.

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65

1 Q And then what happens after he leaves his house?
2 It looks like there's a point right inside the church.
3 A Yes. So you see that at some point during the
4 video right here, it moves from several points that
5 fall in the apartment complex and then begins to move
6 outward as if it's moving from the apartments to Hull
7 Street, which would, you know, the likely path would
8 take you past the -- down Price Club Drive and past
9 the geofence.

10 THE COURT: Past what?

11 THE WITNESS: The geofence.

12 BY MR. PRICE:

13 Q So, in other words, this may be an example of a
14 false positive?

15 A It's possible.

16 Q Could you explain why?

17 A So, of course, you see the point there on top of
18 the church which falls within the fence, which is how
19 you get included. If this user was passing by and the
20 estimate was incorrect, if we assume that they were
21 driving down Price Club Drive and didn't enter the
22 parking lot and only continued down the roadway, which
23 was not included, if the estimate was incorrect and
24 thought that the device actually did travel through
25 the geofence, then this person was included even

McINVAILLE - DIRECT

66

1 though they did not pass through the geofence.

2 Q How would that happen in terms of the location
3 data? Was this a Wi-Fi or a GPS point?

4 A I'm not sure, but it would be based off of a --
5 just due to the estimate, and its just inherent
6 inability to perfectly place someone on earth.

7 Q So where does Mr. Blue wind up at the end of the
8 day?

9 A Sure. So you see it travel south. It appears to
10 travel to another residence in this area. I'm not
11 sure of the road name here, but it ends up in this
12 portion moving down to a more spread out residential
13 area just south of where the geofence was and clusters
14 around a single residence there before, I believe,
15 moving back north again.

16 THE COURT: It's near the intersection of --
17 is it Alberta Road, counsel?

18 THE WITNESS: Yes, I see Albert Road. I was
19 going to try to annotate it. Yeah, they're just south
20 of where Alberta Road intersects with this other
21 street.

22 MS. KOENIG: Your Honor, Mr. McInvaille can
23 touch the screen and actually circle it so that it's
24 clear for everybody.

25 THE COURT: It's three dots. The more we can

McINVAILLE - DIRECT

67

1 tie it to something, somebody else looking at it can
2 find it, we need to do that. All right.

3 BY MR. PRICE:

4 Q So this is where the cluster ends for the records
5 that we have?

6 A No, I believe it moves back north, but this is
7 where they cluster for just a moment.

8 Q And would law enforcement be able to do anything
9 with the information about the location of that
10 residence? Would they be able to identify the likely
11 residence?

12 A Yeah, it's possible this is clustered enough on
13 that location that you would believe that that device
14 did travel to that address. These are a little
15 more -- these homes are a little more disbursed than
16 the ones we spoke about on Decoy Lane. But, again,
17 you could assume based on what you see here that that
18 device traveled to that location. And, again, you can
19 use publicly available information as well as law
20 enforcement has other information at their disposal
21 that, yeah, you could likely determine who would
22 reside at that residence.

23 Q Thank you. All right. Can we resume play here
24 and talk about Ms. Yellow?

25 A Yes. This is just the ending of what you see for

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68

1 blue. Blue returns to the apartment complex located
2 along Price Club Drive. Looks like Mallard Landing
3 Circle, that area, is where it comes back to. That's
4 where it started before it traveled to that residence
5 we just spoke about and now it has returned there.

6 So you have yellow is displayed now. So yellow
7 shows you the points that were given in Stage 1.
8 Those points fall -- one falls just outside of the
9 bank. Others fall on top of the bank.

10 So now it's moved to the point in time before the
11 geofence. So we're again before everything, we're
12 here at another residential area. These points seem
13 to center around one residence, and then will
14 eventually move as the data plays through.

15 THE COURT: Can you say where the residence
16 is, what street?

17 THE WITNESS: Right around Buffalo Spring
18 Drive. There's an intersection there. It's a
19 residential home close to that intersection.

20 THE COURT: Okay.

21 BY MR. PRICE:

22 Q How many dots are sitting on top of one residence
23 there?

24 A I'm not sure. It's a few. And then it moves
25 north to a school that's up the road from the

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69

1 residence. The school is located along Bailey's
2 Bridge Road. So after what appears to be a stop at
3 the school, it continues north to where you finally
4 see this device inside the geofence.

5 After the geofence, it moves out of the geofence
6 up Hull Street to some of the business area there
7 before returning back to that same residential area
8 from where it started.

9 Q So based on this information, were you able to
10 identify Ms. Yellow?

11 A To an extent. I was able to see who owned the
12 home that those points clustered around. And also
13 just doing research into those names learned some more
14 information about those people that's consistent with
15 what you see in some of that contextual video.

16 Q Were you able to find social media about that
17 individual?

18 A Yes. So the -- looking at -- looking for just
19 publicly available social media stuff for the people
20 listed for that residence that the data clustered
21 around, you could also see that they had a school-aged
22 child, that they were just recently married. So you
23 could learn a little bit. You see that the school was
24 possibly -- you know, that a stop was made at the
25 school. So it coincides with just some of the readily

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70

1 available information.

2 Q And the key for you here was which dots?

3 A So, again, the residential dots, the residence
4 tells you, hey, there's, you know, that this may be
5 the specific location because they're so clustered in
6 that area, that that's the likely location, as well as
7 the school, the school being another reference point
8 just to understand something about someone. Of course
9 you saw the bank, as well. The bank's the center of
10 this.

11 So there was, you know, three locations there.
12 Then if you look, some of those other businesses could
13 have been traveled to as well in that area after the
14 bank before traveling back home. So there's a few
15 locations within that that could be telling of a
16 person.

17 Q So the most important ones for you, though, were
18 which in ascertaining Ms. Yellow's identity?

19 A If you were going to try and figure out who that
20 person is, the home, the bank, and the school would be
21 probably the most beneficial locations.

22 Q So three points?

23 A Sure.

24 Q And would this data be as identifying to you --
25 identifiable to law enforcement as it was to you?

McINVAILLE - DIRECT

71

1 A Sure. I mean anybody that could take a look at
2 some of this data could learn something from it.

3 Q They would have access to the same tax records
4 that you had access to?

5 A Yes, that's publicly available.

6 Q And social media?

7 A Yes.

8 THE COURT: I'm going to interrupt you. I
9 know I asked you not to repeat too much, but is it the
10 case that an earlier version of this video had lines
11 about where the folks went in realtime or not?

12 THE WITNESS: No, I don't know the specific
13 path. You can kind of understand the path, but no, I
14 couldn't pick out the individual paths.

15 THE COURT: Fine. Just making sure.

16 BY MR. PRICE:

17 Q That's all we have on this exhibit. I want to
18 shift gears a little bit now and talk to you about the
19 opt-in method or Location History.

20 THE COURT: All right. So I'm actually going
21 to take a break. We've been here awhile. Folks need
22 to stretch. I have that it's 11:06. I'll give us 15
23 minutes. And so that would be 11:21.

24 You, sir, of course, will remain under oath,
25 and you can't talk to anybody about your testimony,

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72

1 nor can any other witness. And we'll come back and
2 hit this new topic in 15 minutes. All right?

3 MR. PRICE: Thank you, Your Honor.

4 THE COURT: Okay.

5 (Recess taken from 11:06 a.m. to 11:21 a.m.)

6 THE COURT: All right, sir. Obviously,
7 you're still under oath, and we'll continue your
8 testimony.

9 I should probably do this every time in case
10 other folks have joined. If anybody is here on the
11 AT&T line, we welcome you. I need to remind you that
12 our local rule, Criminal Rule 53, and our standing
13 order prohibits anybody from recording or broadcasting
14 or telecasting this proceeding in any way. We have a
15 court reporter here who is creating what will be the
16 official court record.

17 BY MR. PRICE:

18 Q All right. Mr. McInvaille, I want to talk with
19 you a little bit about the opt-in method for Location
20 History in this case. As a part of your work in this
21 case, you reviewed the declarations of Marlo McGriff?

22 A That's correct.

23 Q I'd like to show you what's been marked as Defense
24 Exhibit 23. Can you tell us what this is?

25 A Yes. This is labeled the "Third Declaration of

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73

1 Marlo McGriff."

2 Q And you reviewed it in preparation for your
3 testimony today?

4 A I have.

5 MR. PRICE: I would move to admit this into
6 evidence, Your Honor.

7 MR. DUFFEY: No objection.

8 THE COURT: It will be admitted.

9 (Defense Exhibit No. 23 is admitted into
10 evidence.)

11 BY MR. PRICE:

12 Q So do you know when Location History was first
13 enabled on Mr. Chatrie's account?

14 A Based on this declaration, yes.

15 Q When was that and how do you know?

16 A It's indicated here. They provided the audit
17 report from Google, which indicates when the -- when
18 the activation of location or the enabling of Location
19 History occurred. There are times listed on here.

20 Q And do you remember what time it was enabled on
21 his account? I know we're having an issue here.
22 There we go.

23 MS. KOENIG: Sorry. I'm getting there. Here
24 we go.

25 A It was on July 9, 2018. And that was at 04:09

McINVAILLE - DIRECT

74

1 UTC. So in the a.m. for, of course, in UTC time zone.

2 Q What is UTC?

3 A UTC is a time standard. So it's just a thing that
4 we reference time off of. It's used for many
5 different types of records and everything, but, again,
6 it's just a concept of time that we can reference
7 local times off of.

8 Q So it was enabled at 4:09 UTC. I want to draw
9 your attention to a line on page 2 of this
10 declaration. It says -- can you read the highlighted
11 part for us?

12 A Yes. So on this same page, Section C, "The user
13 opted in to LH," Location History, "either through
14 device settings or through a Google application on the
15 Samsung device."

16 Q So can you translate that for us? What does that
17 mean?

18 A Yes. So to enable Location History for an account
19 to gather Location History for a device, you must
20 enable Location History. And there's two prescribed
21 ways of doing this. It's either through opening up
22 the settings application on the device, logging in,
23 and opting in to Location History through that method
24 or when prompted through a supported Google
25 application.

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75

1 Q Could it have been enabled during the initial
2 setup of the phone?

3 A Based on the time that Google is giving us, no, it
4 would not have been enabled at setup.

5 Q Why not?

6 A Setup occurred July 2nd of 2018. This is, of
7 course, July 9, 2018. So it was after the phone is
8 setup.

9 Q Have you had an opportunity to examine Mr.
10 Chatrie's cell phone in this case?

11 A I have.

12 Q And you produced a report detailing that
13 examination; correct?

14 A I did.

15 Q I'd like to show you what's marked as Defense
16 Exhibit 6. What is this?

17 A This is my report of the examination of the
18 device.

19 MR. PRICE: Your Honor, I'd like to move this
20 into evidence.

21 THE COURT: Any objection?

22 MR. DUFFEY: No, Your Honor.

23 THE COURT: All right. It will be entered.

24 MR. PRICE: Thank you, Your Honor.

25 (Defense Exhibit No. 6 is admitted into

McINVAILLE - DIRECT

76

1 evidence.)

2 BY MR. PRICE:

3 Q Can you tell us, Mr. McInvaille, how you examined
4 the phone? What did you use to examine the phone?

5 A So I went to the FBI office and was given access
6 to the device, and using Celebrite software I was able
7 to download or extract the data from the device so
8 that it could be examined.

9 Q Were you able to determine anything from that
10 extraction about how Location History was first
11 enabled?

12 A I was able to.

13 Q What did you determine?

14 A So, in my analysis, what I was looking for was
15 activity that corresponded with the timing of what
16 Google indicated was the activation or enabling of
17 Location History. Through that, through my analysis
18 of the data that I extracted, I was able to locate the
19 installation of Google Assistant, which happened
20 within just, I believe, a minute and a half or two
21 minutes of just prior to Location History being
22 enabled.

23 Q Can you tell us when exactly Assistant was
24 installed? You said it was a couple minutes.

25 A Yes, I believe on UTC, it would have been 04:06

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77

1 and some seconds, some milliseconds.

2 Q So it was about two minutes apart?

3 A Roughly, yes.

4 Q What else, if anything, was happening on the phone
5 at that time?

6 A Based on my analysis, I didn't see much occurring
7 during that time. If I recall correctly, the only
8 thing very close in proximity to that was Google
9 Assistant. I believe any activity prior to that was a
10 few hours before, and then the -- I believe the only
11 other Google application interaction that showed up
12 around that time frame was, I believe, 12 hours later,
13 if not more.

14 Q Did you -- I know this took you quite sometime.
15 Did you look at anything else on the phone? How did
16 you determine what else was going on on the phone at
17 that time?

18 A So, to ensure that I feel I had adequately looked
19 at all the data, Celebrite, what it does is it takes
20 the data that's extracted --

21 THE COURT: Can you spell that for our court
22 reporter who's not looking at your report, please.

23 THE WITNESS: Cellebrite,
24 C-E-L-L-E-B-R-I-T-E.

25 A So using the physical analyzer software and

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78

1 reviewing the data extracted, that software, what it
2 attempts to do is take the data you have given it and
3 turn it into something that we all can read.

4 So it parses that information out. Not always is
5 every detail parsed because of changes in software
6 supporting certainly applications and the level of
7 detail. Oftentimes, you can look deeper into that
8 data into the databases to find other artifacts that
9 could be helpful. Dates and times, locations, just
10 bits of information that can give you a better
11 understanding of what it is you're looking at. So I
12 also try to look into that to see if I can locate
13 anything further that maybe wasn't readily available.

14 Again, my conclusion was that Google Assistant was
15 pretty much the only thing that I could find that was
16 occurring on the device during that time period.

17 Q You were able to find evidence of -- what were you
18 able to find evidence of during that time?

19 A That the application was installed to the device
20 at that time.

21 Q And you said you were able to draw a conclusion
22 about how Mr. Chatrie likely enabled Location History?

23 A That's correct. So based on my understanding of
24 Google Assistant, Location History, and this
25 extraction, with those items occurring, so the

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79

1 installation of the application occurring, as well as
2 the activation of Location History just a minute or so
3 after that, knowing that through the initial setup of
4 certain applications through Google that they will
5 prompt you to enable Location History, it's my
6 conclusion that that is what would have activated or
7 been the method of activating Location History at that
8 time.

9 Q Thank you. So I want to talk about what that
10 opt-in screen would have looked like in Assistant.
11 And I'll turn your attention to the setup process for
12 Google Assistant. Can you explain in a little more
13 detail how that works?

14 A So when you -- when the application is on the
15 device, generally people will activate that
16 application by long pressing the home button. It's
17 meant to be a convenience feature. So it opens the
18 application.

19 During most applications, upon first use of really
20 any application, there are certain things you have to
21 do to set those applications up so that you can use
22 them; preferences, permissions, those types of things.

23 So those would be things that would be prompted to
24 the user as you begin to use your app for the first
25 time.

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80

1 Q Why is that process important in this case?

2 A Well, in this case, the reason that it's important
3 is, of course, the only way that you are captured in
4 this warrant that we have here is to have Location
5 History enabled. So that function is critical in all
6 of this. So without it, you will not be found within
7 the warrant. So knowing if Location History is on or
8 off, when it was activated, those things are important
9 in this matter.

10 Q Did you attempt to determine what Mr. Chatrie
11 likely saw when he set up Google Assistant for the
12 first time?

13 A Yes, I've tried to understand that, you know, the
14 2018 method of opt-in procedures.

15 Q You actually prepared a supplemental report all
16 about this?

17 A Yes.

18 MR. PRICE: Can we bring up Defense Exhibit
19 7.

20 BY MR. PRICE:

21 Q What is this?

22 A This is the supplemental report that discusses the
23 opt-in.

24 MR. PRICE: Your Honor, I'd like to move this
25 into evidence.

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81

1 THE COURT: Any objection?

2 MR. DUFFEY: This is Exhibit 7?

3 THE COURT: Exhibit 7, yes.

4 MR. DUFFEY: No objection.

5 THE COURT: It will be entered.

6 (Defense Exhibit No. 7 is admitted into

7 evidence.)

8 BY MR. PRICE:

9 Q So tell us, how did you learn about this process
10 and what did you do first?

11 A So I looked at Android devices to try and get an
12 understanding of what that procedure would be. The
13 issue with trying to recreate some of these things is
14 that software changes over time. Those updates when
15 you're setting up these devices often automatically
16 happen if you have them connected to Wi-Fi, which is
17 kind of a critical piece of actually setting up the
18 device as a normal person would.

19 So it kind of left me with the inability to see
20 the 2018 or a confident way of knowing that back in
21 2018 this is what it would have looked like. So
22 instead of being able to recreate, I turned to try and
23 find information contemporaneous to that time to help
24 me understand what that would have looked like at that
25 time.

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82

1 Q So you tried to recreate it, but that didn't work?

2 A Yeah, they just -- it looks different. The setup
3 process is different than what it was. There's
4 features that are different. It's just not the --
5 from what I see from research and then trying to
6 recreate it, they don't look the same, and I didn't
7 feel it would be an accurate representation.

8 Q Does it matter which phone you try and do this on?

9 A No. From everything that I know about this is
10 that the Android, and across the devices generally,
11 should be the same as far as this portion of the
12 setup.

13 Q So unable to re-create it, what did you do next?

14 A So that's when I turned to information that I
15 could find that was more in that time period of people
16 setting up these devices and showing what that
17 information actually looked like in 2018 versus now.

18 Q And did you, through defense investigation, become
19 aware of any other information?

20 A Yes. So there were several articles or studies
21 that covered, you know, screenshots and different
22 information that would help you understand what those
23 setup procedures looked like for the phone or
24 applications, things of that nature.

25 Q All right. So, let's talk about what you found.

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83

1 Were any of those particularly helpful to you? Which
2 ones?

3 A I referenced three of the items in my supplemental
4 report. There was an article and then two studies
5 that showed pictures of the screens as they set
6 devices up. And based on the information that they
7 provided, you could see that these were Android
8 devices with similar, from our understanding, similar
9 operating systems and things and also were around this
10 relevant time period.

11 Q So what was the first article that you came cross
12 that you found to be helpful?

13 A I don't know that it's the first. It's the first
14 that I reference here. But it's from the Quartz. And
15 the article talks about Location History as one of
16 the -- as the topic of the article.

17 Q What is Quarts?

18 THE COURT: Spell it.

19 MR. PRICE: Q-u-a-r-t-z.

20 THE COURT: Thank you.

21 A They have editors and people who write articles.
22 It seems to kind of pertain around technology and
23 different items.

24 Q All right. I'd like to show you what's been
25 marked as Defense Exhibit 48. What are we looking at

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84

1 here?

2 A That appears to be that article. Yes, that's the
3 article.

4 Q So this is the article where you got the
5 screenshots from for your report?

6 A Yes, lower in the report, in the article. Yeah,
7 it was the Google Assistant permissions screen that I
8 found.

9 Q Thank you.

10 MR. PRICE: And I would like to move this
11 into evidence, as well, Your Honor.

12 THE COURT: Any objection?

13 MR. DUFFEY: Judge, same objection as the
14 other article. If they're moving in, I guess, not for
15 the truth, then I don't know what the relevance would
16 be.

17 THE COURT: I'm going to overrule it. It's
18 the basis of his opinion.

19 MR. DUFFEY: For the record, our objection is
20 as to relevance. The point of the article doesn't
21 seem to me to be the opt-in process. I understand
22 he's relied on some of it, and he's put that into his
23 report, and he can certainly talk about it, but we
24 object to the entire article. And I understand the
25 Court's ruling.

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85

1 THE COURT: All right. I'm going to make
2 essentially the same ruling, which is that you can
3 argue the weight of the evidence, certainly, and
4 cross-examine the expert with respect to it, but
5 because, at least in part, it served as the basis for
6 his expertise, it is admissible to that degree.

7 MR. PRICE: Thank you, Your Honor.

8 (Government's Exhibit No. 48 is admitted into
9 evidence.)

10 BY MR. PRICE:

11 Q So in addition to the Quartz screenshots, did you
12 find any others? What was the next one that you cited
13 in your report?

14 THE COURT: Now, wait a minute. Now, he said
15 there is the Quartz screenshot right there in that
16 article. Would you like to identify for the record
17 where it is?

18 MR. PRICE: We will certainly try, Your
19 Honor. I'm not sure that there are page numbers. It
20 is on page 6 of the PDF itself.

21 THE COURT: Why don't you identify what's
22 on -- like, does it say, for instance, Google Maps,
23 Google app? That are words and headings that help.

24 MR. PRICE: There is a heading that says
25 "Google Assistant." And there is a screenshot below

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86

1 that which has a blue bar on top and says "Give your
2 new assistant permission to help you."

3 THE COURT: Perfect. That's great. Thanks.

4 BY MR. PRICE:

5 Q Mr. McInvaille, so this is one of the screenshots
6 that you believed might be similar to the one that the
7 user would have seen in July of 2018?

8 A Yes, it's similar.

9 THE COURT: Why don't you just put on the
10 record why. Is this article dated?

11 THE WITNESS: Yes, I believe January of 2018
12 was the date. The reason that it's similar is, again,
13 you see a similar layout, give permission for your
14 assistant to help you. Similar wording. There are
15 some differences in some of them as they move along,
16 but as far as the structure and the question that is
17 being posed to the user, they are similar.

18 THE COURT: Similar to what?

19 MR. PRICE: I think we're going to try and
20 compare the different screenshots here, Your Honor.
21 So I just want to have all three so that we can talk
22 about their similarities and differences.

23 THE COURT: Okay.

24 BY MR. PRICE:

25 Q But, Mr. McInvaille, can you please read what it

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87

1 says there under "Location History," just so we have
2 it?

3 A Sure. So on "Give your new assistant permission
4 to help you" is the kind of header of this permission
5 screen. It tells you the -- it will tell you the
6 account that you're using as it's asking permission to
7 activate certain things for that account.

8 And then you have Location History, device
9 information, Voice & Audio Activity are the
10 permissions that are being asked to be given. Each of
11 those topics have their own description and expansion
12 arrows.

13 Location History indicates that you're giving
14 permission to -- it creates a private map of where you
15 go with your signed in device.

16 Device information. It includes contacts,
17 calendars, apps, music, battery life, and sensor
18 readings.

19 And then voice and audio activity. Records your
20 voice, audio input, to help recognize your voice and
21 improve speech recognition.

22 Q Thank you. I'd like to move on and look at the
23 next screenshot that you found that you included in
24 your report. Which one was that?

25 A Sure. This is from a study from Oracle. Oracle

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88

1 is a technology company, a computer science company, I
2 believe. They show the Google Assistant process, but
3 they also show the previous screen to what you see
4 from the article that we just mentioned from Quartz.

5 So they're showing you both the initial screen
6 that you see when you open Google Assistant for the
7 first time to set it up, as well as the subsequent
8 permission screen that we just discussed.

9 The information contained with those, besides the
10 account, of course, because these are two different
11 people setting this up, the other substance is the
12 same here for these two screens.

13 So, first, you have "Meet your Google Assistant."
14 It asks how it can help. And then you have to either
15 skip that procedure and not completely set up or press
16 "Next" to completely set up.

17 You press "Next," that's when it takes you to the
18 permission screen that we just outlined prior to this.
19 And so then you have another piece there at the bottom
20 that was not covered because you couldn't read it, but
21 the options that you have are "No, thanks" or "Yes,
22 I'm in."

23 Q I'd like to show you --

24 THE COURT: Wait. Did you identify what
25 document that came from, the Oracle?

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89

1 MR. PRICE: That's what we're going to do
2 right now.

3 THE COURT: Okay.

4 BY MR. PRICE:

5 Q Can you tell us what we're looking at here?

6 A Sure. So this is the cover page of the Oracle
7 study. It's "Google's Advertising and" I believe that
8 says "Data Dominance."

9 Q Is this the document where you got those
10 screenshots from?

11 A That's correct.

12 Q You reviewed it in putting together your report?

13 A I did.

14 MR. PRICE: I'd like to move it into
15 evidence, Your Honor.

16 THE COURT: What number is it?

17 MS. KOENIG: Sorry. This is Defense Exhibit
18 10.

19 MR. DUFFEY: Judge, same objection. I'd also
20 point out Oracle is in protracted litigation with
21 Google. They are adverse to Google. I guess that
22 goes to the weight, but I'm still objecting to
23 relevance, and I'm objecting to hearsay for the entire
24 report to come in.

25 THE COURT: All right. Well, for the same

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90

1 limited purpose, I am going to admit the exhibit. And
2 you can argue the weight of the evidence, including
3 you can cross-examine about the fact that Oracle is
4 litigating against Google for perhaps a bias of the
5 report. All of that can be part of the record. And
6 then it will be introduced for that limited purpose.

7 (Defense Exhibit No. 10 is admitted into
8 evidence.)

9 THE COURT: So, Mr. Price, I'm going to tell
10 you, for us who don't know what you're doing, if
11 you're showing a screenshot, you're really having the
12 witness testify from something that's not in evidence
13 yet. So unless you refer to where the screenshot is
14 in the report, so we know where you got it from, it
15 would be not proper for him to be testifying from the
16 Oracle document yet.

17 So if you say what part of the page of the
18 report that you're using the screenshot, that helps
19 those of us who don't know in advance what you're
20 doing to understand what you're doing.

21 I was presuming, I'll tell you, that that
22 screenshot was from this report, and it wasn't in
23 evidence yet. So we just -- we're not with you. So
24 you have to be -- you have to go granular into where
25 these documents are coming from. Okay?

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91

1 MR. PRICE: I will, Your Honor.

2 Can we bring up the specific page in the
3 report, please.

4 BY MR. PRICE:

5 Q Mr. McInvaille, you don't happen to remember which
6 page it was on, do you?

7 A I don't.

8 MR. PRICE: Apologies for the delay, Your
9 Honor.

10 We are going to move to withdraw Exhibit 10.
11 And we'd like to show Mr. McInvaille Defense Exhibit
12 11.

13 THE COURT: So Exhibit 10 is withdrawn. I
14 want to be clear. Your exhibit list indicates that
15 that's a June 2018 Oracle submission. And so maybe
16 also referring to it by date would be helpful.

17 MR. PRICE: Yes, Your Honor. We are
18 referring to the September 2018 Oracle submission.
19 Apologies for the confusion.

20 BY MR. PRICE:

21 Q I'm now showing you what's been marked as Defense
22 Exhibit 11. Can you tell us what this is?

23 A Yes. This is the correct exhibit for the
24 screenshot that I show in my report.

25 Q And what page of the Oracle submission does the

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92

1 screenshot appear on?

2 A The page number that I have is four here. And it
3 is -- the paragraph surrounding it starts with
4 "Continuing through the Android smartphone setup
5 process."

6 Q And this is where you got the screenshot for your
7 report?

8 A That's correct, the screenshot that we're
9 referring to in the report came from this section
10 here.

11 Q Thank you.

12 MR. PRICE: Your Honor, I'd like to move this
13 into evidence, Exhibit 11.

14 THE COURT: Mr. Duffey.

15 MR. DUFFEY: Same objection as before, Judge.

16 THE COURT: All right. I'm going to admit it
17 for the limited purpose, not for the truth of the
18 matter, with the government's concern for the weight,
19 but as a basis for this expert's opinion, it will be
20 admitted.

21 (Defense Exhibit No. 11 is admitted into
22 evidence.)

23 BY MR. PRICE:

24 Q How does this screenshot compare to the one from
25 Quartz that we just talked about?

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93

1 A Yeah. So, again, this is -- it gives you the
2 prior screen to the permission screen. So the "Meet
3 your Google Assistant" screen where you can make two
4 options of either "Skip" or "Next," "Next" being the
5 one that takes you to the permission screen that we
6 outlined previously with the different paragraphs or
7 the different explanations.

8 Q Is there any difference in the text as far as
9 you're aware?

10 A No. The Quartz article screenshot and this
11 screenshot is consistent. They are consistent with
12 each other as far as wording.

13 Q Okay. Thank you. I want to move on to that third
14 set of screenshots that you found. And I want to show
15 you Defense Exhibit 27. Can we look at your report,
16 and can you show us that third set of screenshots?
17 Can you tell us what these are?

18 A Yes. So another set of screenshots from a
19 different study. This study is from the Norwegian
20 Consumer Council. Again, taking you through kind of
21 what the setup process looks like for Google
22 Assistant. These were from the June time period of
23 2018.

24 Q Where did you get these from?

25 A The Norwegian Consumer Council. I don't know if

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94

1 you consider it like Better Business Bureau. It's a
2 consumer reporting agency. It's funded by the
3 Norwegian Government to educate consumers on different
4 products.

5 Q What did they do relevant to this case?

6 A Sure. So they're showing Google features as far
7 as setup processes, requests, and permissions, and it
8 resolves around data collection.

9 Q Do they publish anything?

10 A Yes, they publish a study on their findings in
11 different data collected by Google.

12 Q So I would now like to show you what's been marked
13 as Defense Exhibit 27. Is this the -- well, what is
14 this?

15 A This is an article. It's titled "Every Step you
16 take." I can't actually say the name of the
17 Norwegian -- the name of their agency, but it's the --
18 they call it the Norwegian Consumer Council.

19 THE COURT: How about you spell it? It's on
20 the diagram; right?

21 THE WITNESS: Bottom right of the page. It's
22 F-O-R-B-R-U-K-E-R-R-A-D-E-T.

23 Q And this is the document where you got those
24 screenshots from?

25 A Yes.

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95

1 Q Can you tell us which page you found them on?

2 A Working on it. There is an -- it's page 19 of 44.

3 It's titled or the header is "Enabling Google

4 Assistant," and you see screenshots there for Google

5 Assistant.

6 Q And you used these screenshots to prepare your

7 report?

8 A Yes, I believe there's actually a section with

9 more of those expanded.

10 THE COURT: Sir, did you say "I believe

11 there's more explained"? Are you looking for more

12 documents?

13 THE WITNESS: No. Inside the -- inside the

14 document there's another section with, I believe, more

15 screenshots just underlying the same thing. I pointed

16 out one of the sections that had some of those

17 screenshots in it. I was trying to make sure that I

18 referenced all of the places where the --

19 THE COURT: So you haven't told us about the

20 other ones yet.

21 THE WITNESS: Ma'am?

22 THE COURT: You haven't told us about the

23 other ones yet?

24 THE WITNESS: No. I'm just trying to see

25 where they were in the document, what page they were

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96

1 on.

2 THE COURT: In the meantime, Mr. Price, are
3 you moving this into evidence?

4 MR. PRICE: Yes, Your Honor.

5 THE COURT: Any objection?

6 MR. DUFFEY: Yes, Judge. Same objection as
7 before, irrelevance under hearsay.

8 THE COURT: All right. I'm going to overrule
9 for the same reasons.

10 (Government's Exhibit No. 27 is admitted into
11 evidence.)

12 THE COURT: Can we just put on the record the
13 date of this report? I think it's on the first page.

14 THE WITNESS: Yes. November 27, 2018.

15 THE COURT: Thank you.

16 BY MR. PRICE:

17 Q Did you receive any additional information from
18 the --

19 THE COURT: He's still looking for pages.
20 Right?

21 THE WITNESS: That question will answer that
22 issue.

23 THE COURT: Okay.

24 BY MR. PRICE:

25 Q Have you reviewed any additional screenshots

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97

1 provided by the Norwegian Consumer Council?

2 A Yes. In their report, you see the page that I
3 referenced. I believe it was page 19. There were
4 more screenshots available than what is just displayed
5 on page 19. It expands upon some of these expansion
6 arrows and just gives some more detail.

7 Q And you've seen those?

8 A I have.

9 Q Where did they come from?

10 A They were provided to me by counsel.

11 Q And they were what in relation to this report?

12 A So, they were the underlying information that the
13 counsel used to create this. So it just -- it's more
14 of the screenshots, more of the detailed shots that go
15 along with this explanation.

16 Q And you reviewed those for your report?

17 A I did.

18 MR. PRICE: Can we pull up the third set of
19 screenshots from your report?

20 BY MR. PRICE:

21 Q These are the screenshots you obtained directly
22 from the Norwegian Consumer Council?

23 A Yes, that's where they were obtained from.

24 THE COURT: Do you want to refer to a page in
25 the report and what exhibit number it is?

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98

1 MR. PRICE: We are on page 5 of the
2 supplemental report. So that would be Defense Exhibit
3 7.

4 THE COURT: Okay. Thank you.

5 BY MR. PRICE:

6 Q Can you tell us what these screenshots show us?

7 A Sure. Again, these are more screenshots for the
8 setup for Google Assistant. These were helpful
9 because they just give more information than those we
10 saw in other articles. They expanded the expansion
11 arrows. They are also, from what we understand from
12 Google's declaration, a more accurate version of what
13 we think would have been seen during the actual setup
14 of this device that we're talking about today.

15 Q When are these screenshots from?

16 A These screenshots were -- I believe it was July 2.
17 Yeah. Some were taken in August. Some were taken in
18 July.

19 Q So there are two sets here, two sets of
20 screenshots. One that we're looking at now on page 4?

21 A Yes. Page 4 is the July 2 screenshots.

22 Q And then we have one more set. When are those
23 from?

24 A August 9. And those are on page 5, Figure 4.

25 Q So I want to go up to the July one. Can you tell

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99

1 us how these screens differ from the Oracle and Quartz
2 screens that we just talked about?

3 A So they look very similar as far as structure.
4 Really, the only difference is some of the wording
5 that you see as far as the descriptions of what
6 permissions are being given. You're still provided
7 with the same permission. So Location History, device
8 information, Voice & Audio Activity, but the
9 explanation underneath each of those or the
10 explanations are different in these screenshots. And
11 as I understand from Google submissions, these are the
12 screens that the user would have seen during the setup
13 of this device.

14 Q Can you remind us, for the record, when Location
15 History was enabled?

16 A Location History in this case was July 9th of
17 2018. So a set of these were just before and another
18 set was just after.

19 Q How did that affect your confidence in determining
20 which one was the likely one that was in place at that
21 time?

22 A Again, these are close in time to the time that we
23 know Location History was enabled. And also Google
24 has submitted saying these are the screens that the
25 user would have seen at that time, as well. So that's

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100

1 why I lend more confidence to these being the true
2 depiction of the opt-in process.

3 Q Is the language on these screens consistent with
4 the text in Mr. McGriff's affidavit?

5 A With Mr. McGriff's affidavit?

6 Q Yes.

7 THE COURT: Is it Mr. or Ms.? It's Marlo.

8 MR. PRICE: Mr.

9 THE COURT: Marlo is Mr.?

10 MR. PRICE: Yes.

11 THE COURT: My apologies. Okay. Thank you.

12 A Yes. So in Mr. McGriff's affidavit, he does show
13 a portion of these screens or he doesn't show a
14 screenshot, but the text from it. So the give your
15 permission, Location History, what it says under
16 Location History, which says "Saves where you go with
17 your devices." And then also the little footnote just
18 above the selections that you can make is included in
19 his affidavit or declaration.

20 Q So we have the Quartz and Oracle screenshots that
21 say one thing. And those are from when?

22 A As I recall, probably January of '18. That time
23 frame is my understanding.

24 Q The beginning of 2018?

25 A Beginning of 2018.

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101

1 Q And these are when relative to that?

2 A Mid 2018. July, August area.

3 Q The language changed between the Norwegian
4 screenshots and the Oracle and Quartz screenshots.
5 What does that tell you?

6 A That just tells me that Google made a change in
7 how they display this information to the user.

8 Q Can we scroll down to the August screenshots. So
9 there's a couple of buttons at the end there. What do
10 those say?

11 A So, again, this screenshot is asking for
12 permission. It says "Give your new assistant
13 permission to help you." And then there are the three
14 categories that you're providing permission for. And
15 then at the very bottom you have the choices of either
16 "No, thanks" or "Turn on."

17 Q Are the "No, thanks" and "Turn on," are those the
18 same choices available in the Quartz and Oracle
19 screenshots?

20 A No, I don't believe they're the same questions.

21 Q Instead it says -- looking at the Oracle one, what
22 does it say?

23 A "No, thanks" is one, and "Yes, I'm in" is the
24 other.

25 Q So that language there is different, as well?

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102

1 A It is.

2 Q Tell me about the long press on an Android phone.
3 What does that do?

4 A Sure. So the buttons on the front lower portion
5 of the phone down where your thumb would normally be
6 if you were holding the phone, kind of where you would
7 speak into the phone, down there our phones now really
8 don't have buttons on the screen anymore. Everything
9 is touch screen. But in the center of an Android, or
10 most Androids, you have a home button. What you can
11 do is press, and it's called a long press. It's kind
12 of a press and hold of that button to activate Google
13 Assistant. So it will launch the application from
14 that long press.

15 Q So if you press and hold the home button?

16 A Yes. It pops it up on the screen.

17 Q So, in your opinion, which set of screenshots is
18 the likely one that Mr. Chatrrie would have seen?

19 A Those that we see, as in Figure 4, here in the
20 report from August, that or the others in the previous
21 figure. Both of those are confirmed by Google as
22 being the most likely screens that would have been
23 seen by the user during this time period.

24 Q Did you have an opportunity to compare these
25 screenshots with the screenshots that Mr. McGriff

McINVAILLE - DIRECT

103

1 provided in his declaration?

2 A Yes.

3 Q Those weren't for Google Assistant, though, were
4 they?

5 A No, it was just a Location History permission
6 request. I guess an opt-in screen for Location
7 History.

8 Q So, can you tell us how these screenshots differ
9 from the ones that Mr. McGriff provided in his
10 affidavit?

11 A So, Mr. McGriff's is -- I wouldn't call it so much
12 as a screenshot as it's just the plain text from what
13 you would see in the screen. So, again, in the
14 screenshots that we have here from these articles,
15 they kind of show you what the user would see in kind
16 of the way they would see as far as the screens.
17 Mr. McGriff's just holds the text.

18 THE COURT: Mr. McGriff just what?

19 THE WITNESS: Just the text.

20 THE COURT: Okay.

21 THE WITNESS: Instead of the actual screen,
22 like pictures, he's showing more of just the words
23 that would have been displayed.

24 They're different just because in Mr.
25 McGriff's, he doesn't show you each of the options

McINVAILLE - DIRECT

104

1 that are being given in some of these screenshots.
2 He's only showing Location History and then that
3 footnote that's provided underneath it, as well as
4 what options there are for either "No, thanks" or
5 "Turn on."

6 MR. PRICE: Perhaps we can pull up
7 Mr. McGriff's affidavit.

8 Q This is the third affidavit, and it has previously
9 been marked as Exhibit --

10 THE COURT: 23.

11 MR. PRICE: 23. Thank you.

12 Can we scroll down? All right.

13 BY MR. PRICE:

14 Q This is the text. What are we looking at here?

15 A Sure. So it shows that the opt-in screen would
16 contain the following text: Location History.

17 It has the "Saves where you go with your devices"
18 text that is consistent with the screenshots that we
19 were just looking at. And then it also has, like, the
20 kind of footnote paragraph that's just above the
21 options that you have. So "This data may be saved and
22 used in your Google service where you were signed in
23 to give you more personalized experiences. You can
24 see your data, delete it, and change your settings at
25 account.google.com." Then you have also the "No,

McINVAILLE - DIRECT

105

1 thanks" and "Turn on" options there.

2 Q So in the actual screenshot, though, does the
3 language appear that way visually?

4 A No. There's more in the screenshots of what the
5 user would see. So, again, they're asking permission
6 for Location History, as well as device information,
7 Voice & Audio Activity. There are other descriptions
8 and expansion areas. There's just more in the
9 screenshots that the user sees than what's displayed
10 there.

11 Q And that language you just read from Mr. McGriff's
12 affidavit about how the data may be saved and used in
13 any Google service, where does that appear relative
14 the Location History prompt?

15 A It's down the page. It's at the very bottom of
16 the screen where the options for the selections are.

17 Q How does it appear visually? Is it the same
18 darkness as the other language on the page?

19 A Is it the same -- I'm sorry?

20 Q Font.

21 A I'm not sure. It does -- again, it's just the
22 words from the page. It's not the actual screenshots.
23 The screenshots that the user sees has different icon
24 descriptions. It's visually different and has some
25 content in the screenshots that's not in the

McINVAILLE - DIRECT

106

1 affidavit.

2 THE COURT: Okay. You're referring to the
3 language in the affidavit, paragraph 7; correct? And
4 now you've turned back to page 4 of Exhibit 7, which
5 is your own report. Are you talking about Figure 4?

6 THE WITNESS: Yes, Figure 4, the picture to
7 the right. What I'm referring to is that it contains
8 more information than what's put into the bottom page
9 of Mr. McGriff's declaration.

10 THE COURT: Okay.

11 BY MR. PRICE:

12 Q What do you mean by "more information" here?

13 A Well, there is a request for more than just
14 Location History happening. There are more
15 descriptions of those other permissions that are being
16 requested. There are -- as well as expansion arrows
17 to open up and see what else is available to read.
18 It's just a little bit different than what you see in
19 his affidavit.

20 THE COURT: So, specifically, it says -- on
21 the right-hand part of the screen, it has -- it says
22 "Location History," and it has an icon next to it, and
23 a line under it; "Device information," and an icon
24 next to it and a line under it; "Voice & Audio
25 Activity," and an icon next to it and a line under it.

McINVAILLE - DIRECT

107

1 And then it has, not as a footnote, it says, "This
2 data may be saved and used in any Google service where
3 you are signed in to give you more personalized
4 experiences. You can see your data, delete it and
5 change your settings at account.google.com"; correct?
6 That's what you're testifying to.

7 THE WITNESS: Yes.

8 THE COURT: So there are two more subsections
9 than what is reflected in paragraph 7 of the third
10 McGriff declaration?

11 THE WITNESS: That's right. There's two
12 other permissions that you're being asked to provide
13 permission to.

14 THE COURT: Okay.

15 MR. PRICE: Thank you.

16 Can we bring up Mr. McGriff's affidavit one
17 more time? I'd like to see the screenshots that he
18 provides or maps.

19 BY MR. PRICE:

20 Q What are we looking at here?

21 A This is Mr. McGriff's declaration, page 7. These
22 are screenshots from Google Maps.

23 THE COURT: This is Exhibit 23, McGriff
24 Declaration 3, since there are three of them. We're
25 looking at Exhibit 23; am I correct?

McINVAILLE - DIRECT

108

1 MR. PRICE: Yes, Your Honor. Twenty-three,
2 page 7.

3 THE COURT: Okay.

4 BY MR. PRICE:

5 Q So, by comparison, comparing the Assistant setup
6 screen and the Map setup screen, can you tell us along
7 the lines of what you're saying, what is different
8 between these two?

9 A These, again, appear differently. They're asking
10 for similar permissions but appear differently. They
11 actually have less permissions than what you're being
12 requested from for Google Assistant. Location History
13 is one of those. It has the drop down. It also has
14 the line underneath it for "saves where you go with
15 your devices." It also has the paragraph underneath
16 it that's just above the "No, thanks" and "Turn on"
17 buttons that you saw from previous requests but here
18 now for Google Maps.

19 Q So there's one screen for maps, one set of
20 permissions for Location History, and two options,
21 "Turn on" or "No, thanks"?

22 A Correct.

23 MR. PRICE: Can we go back to
24 Mr. McInville's report, supplemental report, Exhibit
25 7, page 5.

McINVAILLE - DIRECT

109

1 BY MR. PRICE:

2 Q By contrast here, how many permissions is Google
3 asking for?

4 A For Assistant, it's askings for three permissions.

5 Q What are the options at the bottom?

6 A "No, thanks" and "Turn on."

7 Q Does that apply to Location History?

8 A Yes.

9 Q Does it apply to device information?

10 A It applies there, too.

11 Q Does it apply to Voice & Audio Activity?

12 A Yes. It applies to everything you see on the
13 screen. The request is for all three of those items
14 at once.

15 Q So what are the users options at that juncture?

16 A Either to turn it on or not turn it on.

17 Q Turn what on?

18 A Location History, device information, Voice &
19 Audio Activity.

20 Q So either turn all three on or don't?

21 A Correct.

22 Q Those little upside down triangles, what are those
23 on the screen there that we're talking about? There
24 are three of them. One is next to Location History.
25 One is next to device information. One is next to

McINVAILLE - DIRECT

110

1 Voice & Audio Activity.

2 A They were referred to in some of the -- in the
3 declarations as expansion arrows. It just expands the
4 area underneath each of those topics. And there's
5 more information contained under each of those tabs.

6 Q I think we have that on the screen. If we can
7 show the language.

8 We're on page 4 of Exhibit 7. Can you tell us
9 what we're looking at now?

10 A Sure. These were included due to the expansion
11 arrows actually being selected so that you can see the
12 information underneath each of the permissions being
13 given.

14 Q But that information is not visible from that
15 first screen?

16 A No. Unless you click the arrow, you can't see all
17 of the data.

18 Q Do you have to click the arrow?

19 A No, you don't have to click the arrow to make a
20 determination of on or off.

21 Q So, I could enable Location History without ever
22 clicking on that expansion arrow?

23 A Right. You don't have to see this to make a
24 selection.

25 Q Does it say "learn more" or "more info" here?

McINVAILLE - DIRECT

111

1 A I don't recall any of these having that option.

2 Q What does Google say in the screenshot about
3 whether Location History is necessary for Assistant to
4 work?

5 A So the kind of, I guess, characterization that's
6 put at the top is Assistant depends on these settings
7 in order to work correctly. Turn these settings on
8 for this account. It specifies the account that
9 you're making that selection for. And then tells you
10 what permissions you're acknowledging to make
11 Assistant work correctly.

12 Q Can you set up Assistant this way?

13 THE COURT: Wait a minute. Where are you
14 reading from?

15 MR. PRICE: Right under "Give your new
16 Assistant permission to help you." It says -- it's
17 the middle screenshot.

18 THE COURT: So you're on page 3. You moved
19 to page 3?

20 MR. PRICE: I believe we're still on page 4.
21 Three screenshots in a row. We're looking at the
22 middle one.

23 MR. DUFFEY: Judge, I have page 3. So I'm a
24 little confused.

25 THE COURT: Right. My page 3 has on the top

McINVAILLE - DIRECT

112

1 of it "Device Information" and on the bottom "Voice &
2 Audio Activity." And my page 3 has "Location History.
3 Saves where you go with your devices." And that's the
4 one that has the "Meet your Google Assistant."

5 MR. PRICE: One moment, Your Honor. Your
6 Honor, are you looking at Exhibit 7?

7 THE COURT: Yes.

8 MR. PRICE: Page 4?

9 THE COURT: I'm looking at page 3 and page 4.

10 MR. PRICE: We have it on the screen now.
11 I'm not sure why your version -- page 3 has the Oracle
12 screenshot. Page 4 has the one that we are looking at
13 from the Norwegian Consumer Council.

14 THE WITNESS: The page number at the bottom
15 is different than the PDF page number is what it is.

16 Q Okay. What page?

17 A Scroll down just a touch. So, the page number at
18 the bottom right is 3.

19 Q Okay. My apologies.

20 So we're looking at page 3 of Exhibit 7, the
21 Norwegian Consumer Council screenshots from July 2,
22 2018. And in the middle screen it says, "Give your
23 new Assistant permission to help you." And then,
24 sorry, can you read that language one more time?

25 A Yes. So, in that middle screenshot, "Give your

McINVAILLE - DIRECT

113

1 new Assistant permission to help you." Just
2 underneath that, "The Assistant depends on these
3 settings in order to work correctly. Turn on these
4 settings for," and that's referring to what account
5 you're turning the setting on for. And then it
6 indicates what settings you are either turning on or
7 not turning on.

8 Q Thank you. And if we're setting up Google
9 Assistant in this way, and you want to turn it on,
10 Assistant, what do you have to do?

11 A As they indicate for it to work correctly, you
12 need to give permission to these -- to the permissions
13 shown to the user.

14 Q You need to give permission for all three?

15 A Yes. You don't get to pick individually. It's
16 all three.

17 Q So let me ask you, what would happen to Google
18 Assistant if you disabled Location History later on?

19 A You could still use it.

20 Q It works?

21 A Yeah.

22 Q Even if Location History is not enabled?

23 A Yes. You don't need Location History for it to
24 work.

25 Q So why would Google make it a requirement to set

McINVAILLE - DIRECT

114

1 up Assistant?

2 A I'm sorry?

3 Q Why would Google make it a requirement to start
4 Google Assistant?

5 A I think they're asking for permission to make it
6 better. Again, you don't have to use it, but it's a,
7 as they say, for it to work correctly or as intended,
8 the permissions help in that way.

9 Q But it works without Location History enabled?

10 A You can use it without Location History.

11 Q And where on here does Google tell us that?

12 A I'm not sure they do. I just know that you can
13 use it without Location History being enabled.

14 Q Thank you. Switching gears slightly. I want to
15 talk about Location History collection more generally.
16 When does Google collect location history information?

17 A When the user -- if it's enabled by the user from
18 everything that I have seen as far as data outputted
19 from Location History, it's always collecting.

20 Q Always?

21 A Very consistently throughout the day.

22 Q What if the user is not using Assistant?

23 A It -- again, from seeing the times of day and
24 things that are referenced in these records that we
25 see from Location History, it appears to happen all

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115

1 times of the day. So when the user is sleeping, not
2 sleeping. It's a lot of information that's being
3 gathered as far as just location is concerned.

4 Q What if a person isn't using an app at all on
5 their phone?

6 A I think it would still collect location
7 information.

8 Q What if the person is not doing anything at all
9 with their phone?

10 A It still could be collecting.

11 THE COURT: Let me clarify that. Do you mean
12 by not using the app at all that the app is open or
13 closed? It doesn't matter?

14 THE WITNESS: So the application is not
15 important here once it's enabled. Just the phone
16 being on, not in use, or any specific application
17 being launched or not launched. Once enabled, you are
18 now collecting your location history all the time.

19 THE COURT: Thank you.

20 BY MR. PRICE:

21 Q What about right now? What if somebody in this
22 courtroom had an Android phone? Would it be
23 collecting their location data?

24 A It very well could be even if they're not using
25 it.

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116

1 Q How do you know this?

2 A Again, based on looking at a lot of these records
3 from Location History accounts, not just geofence. Of
4 course, you could get this data just at the account
5 level. The time that it spans when you look at the
6 records, it consistently covers just about every hour
7 of the day, most of the time. So, just looking at it,
8 I would assume somebody's got to sleep at some point
9 or, you know, just not using their device all the
10 time. So it's constantly recording information.

11 Q And did you review any of those types of records
12 in this case?

13 A Yeah. So the account that we're talking about
14 here was gathered by law enforcement. So once the
15 particular account was identified, they actually did
16 another request to get the full account. So the
17 location history associated with that account and all
18 the other data that you can normally get through that
19 type of request.

20 So, in this instance, I looked at that data. So I
21 believe there was a 35-day period of data that was
22 provided in that request.

23 Q Let's take a look. I'd like to show you Defense
24 Exhibit 8, please.

25 MS. KOENIG: Your Honor, this exhibit details

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117

1 very detailed specific location information for an
2 individual, Mr. Chatrie. And so we're going to look
3 at the paper copy of this. This is Defense Exhibit 8,
4 and we would ask that this be put in under seal.

5 THE COURT: All right. There's no objection
6 to that being under seal; is that right?

7 MR. DUFFEY: No objection, Judge.

8 THE COURT: All right. So we'll look at the
9 sealed version, which I don't have a copy of.

10 THE WITNESS: I don't either.

11 MS. KOENIG: I hadn't anticipated -- we have
12 a digital copy that had been provided to the Court. I
13 hadn't thought ahead about how to present this since
14 we have broadcasting.

15 THE COURT: Since we have what?

16 MS. KOENIG: The broadcasting that is being
17 shown to another courtroom. There's no issue with
18 showing it to everybody in this room if it's up on the
19 screens. I don't know if it's just that I could show
20 it to the witness and the lawyer screens and the Court
21 screen instead of broadcasting it to the other
22 courtroom.

23 THE COURT: Is there anybody in the other
24 courtroom?

25 THE CLERK: It doesn't appear that there's

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118

1 anyone in there.

2 THE COURT: Can we talk to the CSO and close
3 the courtroom?

4 MR. DUFFEY: Judge, I guess I'll raise my
5 objection. Why are we talking about search warrant
6 No. 2? I object to relevance if we're going to get
7 into a sealed second search warrant. It's not the
8 subject of the motion today.

9 MR. PRICE: I'm happy to explain.

10 Your Honor, the data obtained through that
11 search warrant was Mr. Chatrerie's location information
12 over a, let's see, 35-day period. What it allows us
13 to do is to determine how frequently Google was
14 actually collecting Mr. Chatrerie's location
15 information. So that point we believe is very
16 relevant, and this goes to show that directly in this
17 case.

18 THE COURT: I'm going to overrule the
19 objection.

20 Is the courtroom closed? Do we have an issue
21 with the folks on the phone? Is there anybody on the
22 phone?

23 THE CLERK: Yes.

24 MR. PRICE: They won't be able to see it,
25 Your Honor, so it's okay for them to hear the

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119

1 testimony about it. We just don't want to have the
2 longitude and latitude coordinates being captured or
3 somebody being able to write them down.

4 THE COURT: Okay.

5 BY MR. PRICE:

6 Q All right. So this is Defense Exhibit 8. Can you
7 tell us what we are looking at here?

8 A Yes. So very similarly to what we have seen when
9 we refer to like the Stage 1, Stage 2 requests. This
10 is account specific location history rather than a
11 group of people's location history. But you'll see
12 very similar items throughout. It will look very
13 similar besides just a few extra pieces of
14 information.

15 THE COURT: I don't have this document.

16 MS. KOENIG: Your Honor, it's a very large
17 file. It would have taken hundreds of pages to print
18 off. So we provided it digitally to the Court. It's
19 in the box.com account that we had provided to the
20 Court.

21 THE COURT: Okay.

22 BY MR. PRICE:

23 Q Is this the CSV Google data file that you
24 reviewed?

25 A Yes.

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120

1 THE COURT: The what?

2 MR. PRICE: CSV.

3 THE COURT: Okay.

4 MR. PRICE: It's just a type of file, Your
5 Honor. It's a database file.

6 BY MR. PRICE:

7 Q This is the file that you reviewed?

8 A Yes, it's a comma separated value spreadsheet.

9 MR. PRICE: I'd like to introduce this into
10 evidence, as well, Your Honor.

11 MR. DUFFEY: Same objection, Judge.

12 THE COURT: All right. Well, I'm overruling
13 on the same basis.

14 (Defense Exhibit No. 8 is admitted into
15 evidence.)

16 BY MR. PRICE:

17 Q So when you reviewed this file, can you tell us
18 what you found?

19 A Yes. So, again, this is account specific
20 information for one account rather than a group of
21 accounts. The information contained spans, again, I
22 believe, a 35-day period. And so you'll see that,
23 throughout this document, you'll see dates and times,
24 estimated latitudes and longitudes, those sources that
25 we talked about earlier, Wi-Fi, GPS, as well as those

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121

1 display radiuses. All of that information is given.

2 This is where the Stage 1 and Stage 2 information

3 actually comes from for each user.

4 Q So what were the beginning and end dates here, if
5 you recall?

6 A I don't. From looking at -- the bottom date here
7 is May 1st of 2019.

8 Q And that's the start date and the end date?

9 A At the very top it is June 4th of 2019.

10 Q So it's 35 days?

11 A I believe so.

12 Q And could you tell us how many records, how many
13 lines of information are in this file?

14 A Sure. Can you click on the A column, please?

15 8,349. And that may include a few rows at the top. I
16 believe there's three rows at the top. So it's 8,346
17 individual records, I believe. Yes.

18 Q And were you able to determine about how many
19 records per day that is?

20 A Yes. So I just took, you know, how many days that
21 was just to try and understand about how many times
22 per day on average that record got entered. I believe
23 it's around 238 times.

24 Q 228?

25 A Somewhere around in there. It's an estimate.

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122

1 Q Did you work out how many times an hour that is?

2 A Sure. So if you broke that down just by a 24-hour
3 period, that's, I believe, almost 10 records per hour.

4 Q Or once every how many minutes?

5 A Once every 10 minutes.

6 Q Six?

7 A Sure. It's a lot of data.

8 Q So 10 times an hour, once every six minutes?

9 A Roughly. I mean, that's the average. Again, it's
10 not on a specific interval. That's just an average.

11 Q Were there any times that Google wasn't collecting
12 data? Like, did it only collect data during business
13 hours?

14 A No. So I looked to try and understand, like, how
15 often per hour, but like the actual hour ranges of
16 when data was collected. And what I did when I looked
17 at that was just try to understand, you know, at, say,
18 12 a.m. to 12:59 a.m. of every day throughout that
19 period, like, how often it gathered records. And what
20 I noticed was that it was consistently gathering data
21 24-hours a day. Sometimes some areas had higher
22 rates, some had lower, but regardless, there were no
23 periods of data not being collected. It was a
24 consistent collection of data across the date, if you
25 look at it just on average for that time.

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123

1 Q There was no hour of the day when Google was not
2 collecting data?

3 A There could be in certain days. There could have
4 been a day where a particular -- but for the, again,
5 the average of across that time, you could see that it
6 generally always would collect data during hours of
7 the day.

8 Q So even as you're sitting here, Google is
9 collecting your data?

10 A Could be, if I had those options turned on.

11 Q And if you did, how many times would they have
12 collected your data since you've been sitting on the
13 witness stand?

14 A Quite a few times. I've been here a few hours
15 now.

16 Q So 20 or so?

17 A It could be, yeah.

18 Q Just one last thing. What happens to Location
19 History, the setting, if the user deletes the
20 application that was used to enable it?

21 A So you're saying in this instance, if Google
22 Assistant was used to opt in to Location History, but
23 then the application is then deleted?

24 Q Uh-huh.

25 A So if you delete that, your permissions are still

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124

1 there. You've enabled that permission on your account
2 even though the application that you used to do so is
3 no longer there. It's not application based. You're
4 activating it for your account.

5 Q Let me make sure I understand. Even if you delete
6 Google Assistant or even if Mr. Chatrie had deleted
7 Google Assistant, it wouldn't have affected whether
8 Google was getting his location history data?

9 A No, because other applications are also
10 submitting -- it's still collecting because it's
11 activated for the account, not that specific app. It
12 was just facilitated through an application.

13 Q So it's a permission for the entire account?

14 A It is, yes. For that device for that account,
15 yes.

16 Q Even though it was enabled through Assistant, if
17 you delete Assistant --

18 A It's still going to collect.

19 Q It's still collecting?

20 A Yes.

21 MR. PRICE: That's all I have, Your Honor.
22 Thank you very much.

23 THE COURT: We probably should take a break
24 now before cross. It's a natural breaking point, a
25 little earlier than when I normally do it. Do you all

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125

1 want to break for lunch? It's 12:30.

2 MR. DUFFEY: Fine with the government, Judge.

3 MR. PRICE: That's fine with us, Your Honor.

4 THE COURT: Do you need a full hour? No.

5 Half an hour?

6 MR. DUFFEY: Yes, ma'am.

7 MR. PRICE: That will be sufficient. Thank
8 you.

9 THE COURT: All right. So I'll give a little
10 more than half an hour. I have it as 12:35. We'll
11 turn at 1:15. That will give time for folks to move
12 back and forth. All right?

13 MR. DUFFEY: That's fine.

14 THE COURT: Again, sir, you're still under
15 oath. Please don't speak to anybody about your
16 testimony. Don't speak to your witnesses about
17 testimony. And please wait for our CSOs to move you
18 around as you're moving in our hallways. All right?

19 So we will take a recess, please.

20 (Luncheon recess at 12:30 until 1:17 p.m.)

21 THE COURT: All right. I'm going to do our
22 reminders, which is, obviously, that our witness is
23 still under oath. Do we have anybody on the AT&T
24 line?

25 THE CLERK: Yes.

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126

1 THE COURT: Anybody who is on our telephone
2 conference, welcome. And I need to remind you that
3 our local rule, Criminal Rule 53, and our standing
4 order prohibits anybody recording, transmitting or
5 broadcasting this hearing.

6 We have a court reporter here who's making
7 the official record, and that's all we will have of
8 this proceeding.

9 All right. Thank you. Mr. Duffey.

10 MR. DUFFEY: All right. Thank you, Judge.

11

12 CROSS-EXAMINATION

13 BY MR. DUFFEY:

14 Q So, good afternoon, sir.

15 A Good afternoon.

16 Q I'm Peter Duffey. I'm with the U.S. Attorney's
17 Office. Nice to meet you.

18 Let's start -- so we're going to talk about the
19 search warrant first. Phase 1 you've already
20 testified to, but let's just clarify. That's one
21 hour; right? And a fence, 150-meter fence, around the
22 area where we say a crime was committed; right?

23 A That's correct.

24 Q And we got back multiple points of data from
25 Google; right?

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127

1 A In that return, yes.

2 Q In Phase 1?

3 A Yes.

4 Q In fact, the multiple points of data applied to 19
5 different devices?

6 A Correct.

7 Q All right. And we talked about Defense
8 Exhibit 21, which is Mr. McGriff's affidavit,
9 paragraph 13.

10 MR. DUFFEY: I'm sorry. I should have warned
11 you.

12 THE COURT: That's okay.

13 BY MR. DUFFEY:

14 Q That's where we got the tens of millions of
15 data -- tens of millions number about their location
16 history data; right?

17 A Correct.

18 Q And that came from McGriff who works for Google.

19 A That's right.

20 THE COURT: Can you repeat the exhibit
21 number, please?

22 MR. DUFFEY: It's Defense Exhibit 21.

23 THE COURT: Okay.

24 MR. DUFFEY: And I'm talking about paragraph
25 13.

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128

1 BY MR. DUFFEY:

2 Q So let me just ask this: You characterize that,
3 or maybe it was Mr. Price, characterized that as a
4 search of tens of millions of people's location
5 history data; right?

6 A Correct.

7 Q Mr. McGriff didn't call that a search, did he?

8 A I don't recall. If we can pull it up.

9 Q We'll pull it up. But I think you know the answer
10 to this. Let me ask this. This is one database that
11 Google has of location history that they run the
12 parameters that we give them in a search warrant, that
13 is one hour, and longitude and latitude parameters,
14 and ask them to give us location history from those
15 parameters; right?

16 A Correct.

17 Q Okay. And it's one database?

18 THE COURT: I'm sorry. I know the timing of
19 cross is important, but I think -- are we having
20 trouble with accessing the exhibits?

21 THE CLERK: Laura, it's not coming up on the
22 screen. Is your plug pushed in all the way or
23 whatever they did last time?

24 MS. KOENIG: I think I got it.

25 MR. DUFFEY: Thank you, Judge. It's a fairly

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129

1 minor point.

2 THE COURT: We're probably going to be using
3 this further. So I want to start off --

4 BY MR. DUFFEY:

5 Q So it's paragraph 13 that I was interested in. So
6 maybe if we could just scroll up a little bit to get
7 by that, because I want to see all the words. There
8 we go.

9 So paragraph 13, they're talking about the
10 majority of Google users worldwide did not have
11 Location History enabled on their account. They
12 concede that it's difficult to come up with an exact
13 number, but one-third of active Google users, tens of
14 millions of Google users worldwide, had Location
15 History enabled on their accounts; right?

16 A Correct.

17 Q Now, that's where you get the tens of millions of
18 people's accounts that were searched; right?

19 A Correct.

20 Q Nowhere does McGriff refer to that as a search;
21 right?

22 A No, he's telling you how many people they estimate
23 would use -- that use the Location History service
24 after he discusses that they have to search that
25 database for the people located within the fence.

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130

1 Q And you would agree with me, we're talking about
2 one database; right?

3 A The Location History database.

4 Q Right. That's called Sensorvault, I think?

5 A I believe that's where they keep it, yes.

6 Q And when you're talking about searching that,
7 you're really talking about a computer and you're
8 putting in the parameters that you want it to look
9 for; right?

10 A That's correct. They're using computers to do
11 that work.

12 Q Also to be clear, the government doesn't have
13 access to the Sensorvault. The government gets the
14 results, that is the 19 devices that Google tells us
15 complied with the parameters that we gave them; right?

16 A That's right.

17 Q Okay. So to be clear, when you compared our
18 search here, our geofence search, to a tower dump, the
19 tower dump example we gave you said probably would
20 give 3,000 numbers to the government?

21 A It's possible.

22 Q And so we're clear on a tower dump, one, you're
23 getting 3,000 numbers; right?

24 A Correct.

25 Q And you're getting phone numbers; right?

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131

1 A Correct.

2 Q Phone numbers to people's accounts; right?

3 A Correct.

4 Q That is not true in the geofence; right? We're
5 getting reference numbers.

6 A Correct. You're getting the device ID.

7 Q Right. But it's a device ID that we, even
8 standing here today after over a year, we can't
9 connect these device ID reference numbers to any
10 individual cell phone numbers; right? At least not
11 through the device number.

12 A Directly to the phone number? No.

13 Q Right. And so when you compare 19 devices, and
14 then your Defense Exhibit 3, and that's under seal.
15 So you should have that in front of you; right?

16 A You said three?

17 Q Three. That's the return that we got on Phase 1.

18 A Okay.

19 Q Actually, I think it also contains Phase 2, but I
20 want to talk to you about Phase 1.

21 Well, it's not numbered. So if you can click to
22 the very beginning of the actual spreadsheet, and it
23 begins in the upper left-hand corner with the No.
24 No. 1. And that No. 1.

25 THE COURT: Are you in Exhibit 3?

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132

1 MR. DUFFEY: Yes, ma'am.

2 THE COURT: So your face is away from the
3 microphone. So we're not hearing everything.

4 MR. DUFFEY: Let me move it over here.

5 BY MR. DUFFEY:

6 Q So if we can go to the beginning of the
7 spreadsheet that begins with 1 and ends three or four
8 pages later at 210; right?

9 A Correct.

10 Q And it's only 19 different devices, but it's
11 actually 209 location plots?

12 A That's correct.

13 Q That's what the government got from the search
14 warrant, at least Phase 1; correct?

15 A Correct, in one.

16 Q Compared to 3,000 -- possibly 3,000 phone numbers
17 that are identified by their phone numbers in a tower
18 dump; right?

19 A Correct.

20 Q Okay. And you testified, I think, on direct that
21 Google calculates to the best that they can that if
22 they are in our 150-meter radius, they're in, and we
23 get coordinates, and if they're out of the 150-meter
24 radius, we don't get anything from them; right?

25 A Yes. If that latitude and longitude falls

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133

1 outside, it won't.

2 Q In, we get it; out, we don't get it?

3 A Correct.

4 Q And the latitude, longitude, and that's Column C
5 in -- excuse me -- D and E in this, those are pretty
6 precise. Those are the points that we see you used, I
7 think, in your Mr. Blue, Mr. Green, Mr. Yellow. We've
8 used in some of these where we're pointing; right? So
9 that's the exact point. And then as you move over to
10 G, maps display radius in meters, that's where they
11 say some of these we're very confident on, and they
12 give you a low number in meters; right? And some of
13 these we're not, and they give you a slightly higher
14 number; right?

15 A That's correct.

16 Q So that's like their margin of error, say, in a, I
17 don't know, a political poll, they give you a margin
18 of error. This is like Google's margin of error.
19 They're telling you how confident they are, and how
20 close this phone is likely to be to this -- to those
21 longitude and latitude marks?

22 A That's correct.

23 Q And some they're pretty confident in, and some
24 they tell you we're not so confident in; right?

25 A Based on radius, right.

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134

1 THE COURT: Based on what?

2 THE WITNESS: The radius, how big or small it
3 is.

4 BY MR. DUFFEY:

5 Q If we could go to Government's Exhibit 1, page 20.
6 And that's with the big blue circle. On direct, you
7 talk a lot about this because this -- and you're
8 accurate. This one big blue circle included
9 businesses, and streets, and apartments, and all kinds
10 of things; right?

11 A Correct.

12 Q All right. And I think you testified that the
13 margin of error, so to speak, the map display radius
14 on that was 384 meters.

15 A Somewhere around there, yes.

16 Q That's pretty high?

17 A Yes.

18 Q In fact, if I can get you to look through the
19 Stage 1 returns, so let's start with the page at the
20 very beginning of the returns. In the upper left-hand
21 corner, that's a one, and it goes down to line 33;
22 right? Are you with me?

23 A Yes.

24 Q Looking at map display radius, do you see any
25 numbers in that that are even close to 384?

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135

1 A No.

2 Q In fact, I think it's lines two, three, four, and
3 five, maybe the first six or seven are over 50, but
4 none are more -- there's two that are 100 even, and
5 then the rest are less than 50 meters; right?

6 A That's fair, yes.

7 Q Is that right?

8 A Yeah, it is.

9 Q Okay. Second page, likewise. That's line 34
10 through 66. There's not a single map radius that's
11 over 50 in that; right?

12 A Correct.

13 THE COURT: Wait. Where are you?

14 MR. DUFFEY: Going to the next page.

15 Q And that has line 67 through 99. I think there's
16 only two, which is line 83 and 86, are slightly over
17 50. The rest of the display radiuses are under 50;
18 right?

19 THE COURT: Can you remind me which exhibit
20 we are?

21 MR. DUFFEY: We are Exhibit 3. And then
22 we're at the third page of the spreadsheet. And that
23 has lines 67 through 99.

24 THE COURT: Got it.

25 BY MR. DUFFEY:

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136

1 Q So, I'm asking you, with the exception of line 83
2 and 86, which are slightly over 50, the rest of those
3 map radius numbers are all under 50 meters; right?

4 A Correct.

5 Q We go to the next one, that's line No. 100 to 132,
6 the entire sheet's well under 50; right?

7 A They're under 50, yes.

8 Q Not a single one's over 50?

9 A It's not --

10 Q Much least 384?

11 A That's right.

12 Q Similarly, line 133 to 166, that page, I think
13 there's two. One's 104 and one's 122. Well, let me
14 be precise. Line 137, slightly over 100. And line
15 150, a little over 100. The rest significantly lower.
16 In fact, some of them are down to 3 meters; right?

17 A Correct.

18 Q In your training and experience, being down to
19 3 meters is probably a GPS point; right?

20 A It is. A reference is GPS for those points.

21 Q All right. Very similarly, on the next page, line
22 166 to line 198, lots of GPS points. Nothing --
23 excuse me. One over 50. Line 186 shows 73. The rest
24 well under 50; right?

25 A Correct.

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137

1 Q So, finally, the last page.

2 MR. DUFFEY: I'm getting to it, Judge.

3 Q 199 to 210, the very end of Phase 1. The second
4 to the last one there, line 209, that's the three --
5 excuse me, 387, I think it is. That's the blue
6 circle; right?

7 A The largest one, yes.

8 Q Right. Now, if you look right above that also at
9 line 208, that's the same reference number; right?

10 A Correct.

11 Q So that's the same device; right?

12 A Correct.

13 Q And only about 30 seconds earlier, but their
14 radius -- map display radius on that is 84?

15 A Correct.

16 Q So they have the same device on here. It has a
17 map radius of only 84, but the next one for some
18 reason goes to 387.

19 A Correct.

20 Q Do you know why it jumped to 387?

21 A I don't.

22 Q Do you have any idea?

23 A I don't.

24 Q Okay. But you would agree with me, if we take
25 away that one anomaly, which is the only one in this

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138

1 entire Phase 1 that's even close to 387, if you remove
2 that one anomaly, what we're left with is a fairly
3 concise circle. Granted, some of them are slightly
4 outside the geofence radius. But it's fair to say
5 this one, the one big blue circle, is pretty much an
6 anomaly here; right?

7 A Again, it's larger than the others, and it's the
8 only one.

9 Q Well, it's a lot larger than the others; right?

10 A Yes.

11 Q Okay. And, in fact, the coordinates just 30
12 seconds earlier on that same device was only 84;
13 right?

14 A Correct.

15 Q Okay. So, now, we've got -- as I said, Phase 1
16 was 19. I'm calling it anonymous numbers. I know you
17 don't agree with that, but these were 19 devices. So
18 let's talk a little bit about the anonymity of these.
19 The reference numbers here, and those are all those
20 reference numbers in Column A from the Phase 1 thing;
21 right? You've been looking at this for over a year;
22 right?

23 A Correct.

24 Q Is there some secret code to those reference
25 numbers that you've cracked that can tell you what the

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139

1 cell number is that's associated with those reference
2 numbers?

3 A No.

4 Q And so to your knowledge, I mean, when we're
5 talking about anonymity, those reference numbers are
6 anonymous as far as identifying any particular phone
7 number; right?

8 A Correct. They don't associate to a phone number.

9 Q So we can take out the reference number. That's
10 not what you're talking about when you say the returns
11 aren't anonymous; right?

12 A Correct.

13 Q Okay. Now, as we talked about the map radius, the
14 location is not precise, and Google gives you
15 different margins of error; right?

16 A Correct.

17 Q Some very, very small and some larger. But every
18 single one of these plots that we got back, Google
19 reasonably believes, at least in their mind, that
20 every single one of these by longitude and latitude
21 should be plotted within our 150-meter radius; right?

22 A That's how they returned it, right.

23 Q And if they found a longitude and latitude outside
24 of our radius, we don't get it; right?

25 A Right.

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140

1 Q So there's no search as far as the government is
2 concerned. We don't get any information on that
3 device; right? Is that right?

4 A If the point falls outside of the geofence, you
5 don't get it.

6 Q Okay. They're not guessing at this. They're
7 not -- it's not their discretion. They have a set way
8 of doing this; right?

9 A They certainly do.

10 Q And they calculated longitude and latitude; right?

11 A Yes.

12 Q And they comply with the search warrant and the
13 parameters that we give them; right?

14 A Correct.

15 Q So at this point Phase 1, in your mind, is
16 anonymous; right?

17 A Sure. You only know who's inside -- you only know
18 the numbers for the people inside the circle.

19 Q And you have these anonymous reference numbers;
20 right?

21 A Yes.

22 Q They don't give you any clue; right?

23 A No, they just associate --

24 Q So Phase 1 is anonymous just like everyone says;
25 right?

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141

1 A Sure.

2 Q Okay. Phase 2 is where you begin to diverge a
3 little bit; right?

4 A Correct.

5 Q Okay. So let's talk about that. So -- well,
6 first, let me ask you, you said government -- the
7 government asked in Phase 2 for all 19; right?

8 A Correct.

9 Q From Phase 1. And I think you said, but I'm not
10 sure, was it your testimony that then Google decided
11 to give us only nine?

12 A No.

13 Q What did you say?

14 A It was that 19 were requested and that Google
15 asked for them to be -- for that number to be reduced.

16 Q Right. Well, I think they just didn't respond.
17 But --

18 MS. KOENIG: Judge, objection that Mr. Duffey
19 is, I think, testifying about that point instead of
20 the witness.

21 MR. DUFFEY: Well, it was a question.

22 THE COURT: The question is, what you think?
23 How does he know what you think? Just rephrase it.

24 MR. DUFFEY: All right.

25 BY MR. DUFFEY:

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142

1 Q The point is, is that Google didn't respond to the
2 initial request. I mean, you reviewed the emails;
3 right?

4 A Yes.

5 Q Google didn't respond to the government's first
6 request that we get all 19 back; right?

7 A I think that's right, yes.

8 Q And, in fact, a couple of times when we asked,
9 Google just didn't respond?

10 A Correct.

11 Q And it's also true, then, that -- and this is
12 Detective Hylton's email, I think. He added in, in
13 the alternative, here's our nine; right?

14 A Correct.

15 Q And so those nine numbers weren't chosen by
16 Google. They were chosen by Detective Hylton?

17 A Correct.

18 Q Okay. Just so we're clear on that. And all
19 nine -- did you do the plot, all nine videos, too?
20 Did you plot all nine of those?

21 A Yes.

22 Q And, in fact, all nine of those, if you recall,
23 all the radiuses, with, I think, the exception of one,
24 all fell -- not only the point, but the radiuses, too,
25 the map display radiuses, all fell within the

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143

1 150-meter circle. Does that sound right?

2 A I think that's correct.

3 Q Now, so let's talk about that. So then it's your
4 contention, then, though, that once we -- in Phase 2,
5 we drop the fence. We add a half hour to each end.
6 That's what we did. That's what the government asked
7 for in the search warrant; right?

8 A Correct.

9 Q And so now we're talking about two hours on one
10 particular day with no geographical restriction and
11 just on these nine phones; right?

12 A Correct.

13 Q So, basically, we already know some of this
14 because we've had them in Phase 1; right? But now
15 we're going outside the circle; right?

16 A Correct.

17 Q So, in some of these, your contention is it's not
18 really anonymous because they go -- I think you really
19 center on the fact that they travel -- they appear to
20 travel to a single family residence; right?

21 A That's part of it, yes.

22 Q Well, we'll talk about that, then. So, when they
23 go to the residence, would you dispute that not a
24 single one of these in Phase 2 of these nine phones
25 stay at any single family residence more than an hour?

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144

1 A Do they stay there for more than an hour?

2 Q Right.

3 A We've only got two hours of data. So none stayed
4 for more -- no, none stayed for an hour.

5 Q Less than an hour?

6 A Sure.

7 Q Okay. All nine phones, when you mapped them out,
8 none of them stayed at the -- I realize you're
9 tracking them. They're going down roads. At some
10 point, they're all going into the circle; right? At
11 least that's what we say; right?

12 A Correct.

13 Q And then some of them go back. But none of them
14 stay at any single family residence for more than an
15 hour; right?

16 A Correct.

17 Q And many of them don't even stay very long at all;
18 right?

19 A Correct.

20 Q Okay. Now, you would agree with me that -- I
21 mean, how old are you?

22 A Thirty-three now.

23 Q All right. You've been to people's homes and
24 stayed more than an hour; right?

25 A Sure.

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145

1 Q You didn't live there; right?

2 A That's correct.

3 Q In fact, people get guests at their homes all the
4 time; right?

5 A That's right.

6 Q So you're not saying, as an expert, because you
7 can track a cell phone to at or near a residence, that
8 that means they have to live there?

9 A That's right. That doesn't mean they have to live
10 there, you're right.

11 Q I understand you say it's possible, and I would
12 agree with you it's possible. Anything's possible.
13 But that doesn't mean that they live there; right?

14 A That's correct.

15 Q And I think when we're talking about -- I notice
16 when you plotted on your three plot -- let me get the
17 number. Defense Exhibit 5. We don't have to play it,
18 but in that you plot specific points, and you show
19 them hitting at or near a single family residence.
20 And that's for Mr. Green, and Mr. Yellow, and Mr.
21 Blue; right?

22 A Correct.

23 Q So, I notice we don't have the map display radius
24 around those points; right?

25 A That's correct.

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146

1 Q Isn't it fair to say that many of those, if you
2 put up the map display radiuses, would probably
3 include the house next to it?

4 A That's right.

5 Q In fact, I think you said that on direct.

6 A I did.

7 Q In fact, it might include a third house; right?

8 A It could include more than one, yes.

9 Q Okay. So, now, you don't know whether they're a
10 guess or the actual person who lives there; right?
11 And for most of these, if not all of these, you're
12 going to have to look, if you want to figure out their
13 identity, now you're looking at two, maybe three
14 houses; right?

15 A Correct.

16 Q And you would agree with me that if, in fact, the
17 holder of that phone was a guest, then doing the
18 things that you talked about doing, the open source
19 thing and looking at tax records or deeds or I'm not
20 sure what, you weren't real specific on what you were
21 looking at, but looking at those kinds of things, like
22 deeds, tax records, open source data, for that house,
23 if they were a guest, then you're not going to get
24 that; right?

25 A Right. You're going to see the person they're

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147

1 associated with.

2 Q Right. And nobody on their tax record or maybe
3 you get, I don't know, their power bill, no one says
4 here's Peter Duffey's power bill, and, by the way,
5 here's 10 of his closest friends; right? You're not
6 going to get that off the power bill; right?

7 A Correct.

8 Q So I think you would agree with me that if, in
9 fact, these people were a guest in the home that
10 you're looking at, then you're not going to be able to
11 find their name from any of this open source data that
12 we talked about; right?

13 A Probably not.

14 Q So now we're talking about you're having to limit
15 this, and you're having to assume, I guess, or look
16 for them actually living in the house before you even
17 have really a prayer of figuring out their identity;
18 right?

19 A For associating with the house, then, yes, you
20 would need something.

21 Q Well, the phone is the only thing that associates
22 it to the house; right?

23 A Correct.

24 Q And so what we're talking about is identifying the
25 person holding the phone; right?

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148

1 A Correct.

2 Q And when I say "identify," and you tell me if you
3 agree with me, when we're talking about identifying a
4 human being, you're talking about their name; right?

5 A Sure.

6 Q Okay. So all of these, I guess, you could go to
7 the courthouse, if you had an address, and look at the
8 deed; right? You could get other open source data,
9 figure out who paid the taxes on the house; right?

10 A Yes.

11 Q That would give you the owner?

12 A Correct.

13 Q But you'd agree with me, if the owner was leasing
14 the house, then you're back in the dark again because
15 now there's lessees in the house, and you don't know
16 who they are; right?

17 A That's right.

18 Q And you won't get that from any of this open
19 source data?

20 A Right.

21 Q And, of course, there's Facebook; right? I think
22 you looked on Facebook.

23 A Correct.

24 Q Other tax records. All of this, you would agree
25 with me, requires fairly significant investigative

1 work on your part; right?

2 A Yeah, you have to look into the data.

3 Q None of it come from Google; right?

4 A Correct.

5 Q And none of it certainly came from Google pursuant
6 to this search warrant; right?

7 A Correct.

8 Q Okay. So let me ask you this: Ultimately, if you
9 were to get, say, a person's -- even if you were able
10 to figure out what their phone number was living in a
11 house, and then you had one of our phones from Phase 2
12 going to that house, you'd still have to be able to
13 match up their phone number with this anonymous
14 reference number from our Phase 2 data; right?

15 A Correct.

16 Q Because there's nothing in the reference number
17 that we got pursuant to this warrant that tells you
18 what their phone number is, at least until you get to
19 Phase 3; right?

20 A Correct.

21 Q So even then, in order to match up that phone to
22 that person, you're going to have to probably have a
23 friendly prosecutor, and you're probably going to have
24 to do court process; right?

25 A Yes.

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150

1 Q You're going to have to get a search warrant;
2 right?

3 A Yes.

4 Q At least grand jury subpoenas to figure out who
5 the subscriber to the phone was?

6 A Yes.

7 Q Maybe. And even -- and you were in law
8 enforcement for eight and a half years, so I think
9 you're going to know the answer to this. Criminals
10 often use other people's names on their cell phones;
11 right?

12 A People in general do that, yes.

13 Q Okay. And especially, say, drug dealers; right?

14 A They can, yes, or false names more often than not.

15 Q They do it all the time; right?

16 A Yes.

17 Q Or they use a girlfriend's name; right?

18 A Correct.

19 Q Because they don't want their name associated with
20 the phone.

21 A Right.

22 Q So in your, I guess, scenario of saying you can
23 maybe uncover the identity of these people, even if
24 you got a person's cell phone at this house and got
25 the subscriber information and figured out their name,

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151

1 that still doesn't get you there; right? Because
2 you're not sure, one, whether or not they were the
3 ones holding the phone on May 20th at 5 p.m., or
4 whatever the time is, of 2019; right?

5 A Correct.

6 Q The time of this search warrant.

7 A Right.

8 Q All right. So when -- I guess maybe it's a
9 question of semantics, but I just want to ask you, so
10 it's your expert opinion that the information that we
11 got from Google in Phase 2 is not anonymous?

12 A It's not that it's identifying in terms of names,
13 but, yes, it can lead you to know who that person is
14 based on being able to track where they have been.

15 Q Okay. In two hours of one day; right?

16 A Correct.

17 Q You think you can figure out who these people are?

18 A Sure.

19 Q All right. Have you figured out who anyone is?

20 A I haven't, no.

21 Q Well, you've had over a year. You haven't figured
22 out the identity of anyone in Phase 2?

23 A I wasn't actually here to investigate who the
24 people were. I was trying to determine if it would be
25 possible to do so.

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152

1 Q Okay. But you haven't done it yet?

2 A No, I have not.

3 Q Okay. So when you say it's not anonymous, it's
4 because it could lead you, with extra work, extra
5 investigative activity, maybe lead you to possibly a
6 group of likely suspects; right?

7 A Correct.

8 Q And in your mind, that means that's not anonymous?

9 A Right.

10 Q All right. So let's talk about, if we could, your
11 supplemental report. And that's Defense Exhibit 7;
12 Right?

13 MR. DUFFEY: Could we get that up? Do you
14 mind?

15 MS. KOENIG: Sure.

16 BY MR. DUFFEY:

17 Q So you would agree with me, looking at your
18 report, right off the bat, you state, and I think
19 everyone appreciates your candor, that you can't
20 replicate the opt-in process that the defendant would
21 have seen. That's on page 1 of your report.

22 A That's right.

23 Q So you can't be sure exactly which of these
24 screens that he saw, if any, from your report; right?

25 A Can't be 100 percent certain.

1 Q Sure.

2 A Right.

3 Q And so the Quartz article, which is Defense
4 Exhibit 48, and we don't have to get that up, but
5 that's what it is, you show the screenshot in your
6 report, Defense Exhibit 7, as Figure 1; right?

7 A Correct.

8 Q And I think you said this, but let's make it
9 clear, this article was published January 24th of
10 2018; right?

11 A Right.

12 Q And I think we've established that Location
13 History on our phone -- I say "our phone" -- the
14 target cell phone here, Mr. Chatric's phone, was
15 enabled on July 9th of 2018; right?

16 A Right.

17 Q So you would agree with me that the Quartz article
18 showing various screenshots was published seven or
19 eight months prior to the enabling on Mr. Chatric's
20 phone; right?

21 A Correct.

22 Q Okay. And we'll get to the Norwegian test, but
23 that shows a different -- that's from July, and that
24 shows a different screenshot; right?

25 A The Norwegian?

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154

1 Q Yes.

2 A Yes, correct.

3 Q So either Quartz is just wrong or something
4 changed in between January and July; right?

5 A Correct, the language changed.

6 Q Okay. So when we look at Figure 1, and this is
7 Figure 1 on Government's 7, this is the Quartz
8 screenshot; right?

9 THE COURT: Just to be clear, it's Defense 7.

10 MR. DUFFEY: Oh, I'm sorry. Defense Exhibit
11 7.

12 BY MR. DUFFEY:

13 Q Figure 1, this is the Quartz screenshot; right?

14 A Correct.

15 Q And you would agree with me, this is not entirely
16 accurate because it cuts off "No, thanks" or "Yes, I'm
17 in" at the bottom of the screenshot; right?

18 A Yeah, it has to be scrolled down to get to those.

19 Q Okay. So we can assume that at the bottom there
20 is a "No, thanks" or "Yes, I'm in"; right?

21 A Correct.

22 Q Okay. And can you preclude the possibility that
23 if you click "No, thanks," that there's a second
24 opt-in page that follows up this to say, like, are you
25 sure, or this is what happens if you do this?

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155

1 A I'm not sure if there is.

2 Q You don't know?

3 A No, I don't.

4 Q In fact, the Quartz article, it wasn't really the
5 point of the Quartz article to document the opt-in
6 process; right?

7 A Right.

8 Q They had a different subject; right?

9 A Correct.

10 Q It wasn't about whether or not this is truly an
11 opt-in process; right?

12 A No. I used the screenshot because it showed one
13 of the permission screens.

14 Q Oh, I'm not attacking you. I'm just pointing out
15 the point of the article wasn't about opt-in. It just
16 happened to have screenshots in it; right?

17 A Correct.

18 Q Okay. The second source you went to, the Oracle
19 report -- for the record, that's Defense Exhibit 11.
20 So if we go to page 2 of your report, Exhibit 7, so
21 Figure 3, in this screenshot that you document --
22 excuse me, Figure 2. This is page 2.

23 MS. KOENIG: It's page 2 of Exhibit 7.

24 MR. DUFFEY: All right.

25 BY MR. DUFFEY:

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156

1 Q This doesn't document at all when this screenshot
2 would have been taken; right? Or does it? You tell
3 me.

4 A I think in another portion they do reference
5 when -- I know they were 2018. I'm trying to recall.
6 I think it was -- I think it was actually closer to
7 the time frame of Quartz, if I'm --

8 Q Before July 2018?

9 A I do believe it was before July.

10 Q But looking at this, you're not sure because it
11 doesn't document it in your report?

12 A Not right here, no.

13 Q Okay. And, again, much like the Quartz figure,
14 the Quartz screenshot, this does not document if
15 there's any further opt-in or out-out process after
16 clicking either "No, thanks" or "Yes, I'm in"?

17 A It does not.

18 Q It doesn't tell you what happens next?

19 A No, there's no screenshots for that.

20 Q Okay. Now, then we go to the Norwegian report,
21 and the Norwegian report itself was Defense 27, but
22 this is on page 3; right? And the difference here, I
23 take it, is that you have to opt-in, I think you
24 testified. It now has three things in the opt-in
25 list, I guess you would call it, that has Location

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157

1 History. And this is Figure 3, "Location History,
2 Device information, Voice & Audio Activity"; right?
3 And those all three are on the list; right.

4 A Yes, they were on the others, as well.

5 Q Then you also show the expanded view of Location
6 History. That, I guess, is that you clicked on the
7 down arrow, and that gives you an explanation of what
8 Location History is; right?

9 A That's what they did, yes.

10 Q Okay. And that says "Location History saves where
11 you go with your devices"; right?

12 A Yes.

13 Q To save this data, Google regularly obtains
14 location data from your devices. This data is saved
15 even when you aren't using a specific Google service,
16 such as Google Maps or Search. That's on Figure 3;
17 right?

18 A Yes.

19 Q You're not contesting that a normal consumer
20 reading that could not figure out that Google is
21 saving their location history, are you?

22 A No.

23 Q Okay. So it's clear, pretty much to anyone who
24 can read, that they're telling you Google is going to
25 save where you go; right?

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158

1 A Correct.

2 Q It also says "If you use the device without an
3 internet connection, your data may be saved to your
4 account once you return online"; right?

5 A Correct.

6 Q I think that goes to your point that once you
7 enable Location History, it's tracking your phone all
8 the time; right?

9 A Right.

10 Q Okay. It also says, I think, that this data may
11 be saved and used in any Google service where you were
12 signed in to give you more personalized experiences;
13 right?

14 A Yes.

15 Q And it tells you, you can see your data, you can
16 delete it, and you can change your settings at
17 account.google.com; right?

18 A Correct.

19 Q That's the same language that Mr. McGriff has in
20 his affidavit; right?

21 A Correct.

22 Q Okay. So there's nothing shady about that; right?
23 About McGriff's affidavit, at least to that point;
24 right?

25 A No.

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159

1 Q Same language. All right. And then at the
2 bottom, again, there's "No, thanks" or there's "Turn
3 on"; right?

4 A Correct.

5 Q Do you think there's any ambiguity there that you
6 are turning on Location History?

7 A No, it's specifically asking for those three
8 permissions.

9 Q All right. And, essentially, and I think this is
10 Defense Exhibit 23, is McGriff's affidavit, the
11 difference really with McGriff's affidavit is that --
12 in his affidavit and his screenshot, Location History
13 stands alone; right?

14 A Correct.

15 Q That's really the only difference; right?

16 A Correct.

17 Q He doesn't define Location History any
18 differently; right?

19 A No.

20 Q Okay. And there's still a "No, thanks" or "Turn
21 on" at the end of it?

22 A Correct.

23 Q Right. So is there any doubt also that consumers
24 are told -- and this is true, that they can always
25 delete Location History any time they want; right?

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160

1 A They can, yes.

2 Q So I know Mr. Price asked you about turning off
3 or, I guess, deleting Google services or Google
4 Assistant doesn't turn off Location History?

5 A Right, the application.

6 Q Right. My question is, though, regardless of
7 that, any time a consumer wants, they can go on their
8 phone and they can say stop taking my -- stop saving
9 my location history; right?

10 A Correct.

11 Q And then Google will stop doing it?

12 A Correct.

13 Q In fact, they can delete it, and then Google won't
14 have it in the Sensorvault anymore; right?

15 A Correct.

16 Q And if Google doesn't have it in the Sensorvault,
17 the government's not getting it even with a search
18 warrant; right?

19 A The way I understand it, yes.

20 Q Because it's just not there.

21 A Right.

22 Q So that can come either because the person never
23 turns on Location History; right?

24 A I'm sorry?

25 Q That can happen -- the government can, I guess,

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161

1 get thwarted on the search warrant by Google where
2 Google says "We don't have any location history."
3 That can happen for two reasons. One is the person,
4 the holder of the phone, can have never turned on
5 Location History; right?

6 A Right.

7 Q Or they can at any time go back on and delete it?

8 A Correct.

9 Q Any time before the search warrant comes; right?

10 A Correct.

11 Q In which case, in both cases, Google, in response
12 to a government search warrant, would say, Sorry, we
13 don't have anything; right?

14 A I would think so, yes.

15 Q Okay. And I think you've said this, again, but
16 let's make it clear. There is no way that Google
17 saves this data without the customer in some form or
18 fashion clicking either "Yes, I'm in" or "Turn on" and
19 Location History is at least one of the items up above
20 that choice; right?

21 A Right.

22 Q A customer has to agree to Location History or
23 Google is not saving their location data; correct?

24 A Yes, their location history. It doesn't have
25 that.

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162

1 Q From Mr. McGriff's affidavit, do you have any
2 reason to doubt his one-third of Google users
3 worldwide have Location History enabled? That means
4 two-thirds do not; right?

5 A Yeah, there's no way for me to know.

6 Q Do you have any reason to doubt that?

7 A No.

8 Q I mean, you talked about the tens of millions
9 number on direct; right? You got that from the
10 one-third of Google users worldwide having Location
11 History enabled; right?

12 A Correct.

13 Q That means three times that number of Google users
14 don't have Location History enabled; right?

15 A That's right.

16 Q Which means they're not -- Google has none of
17 their location data; right?

18 A They don't have location history.

19 Q Location history.

20 A Yes.

21 Q We'll get to that.

22 So, it's fair to say that tens of millions of
23 Google users have somehow figured out how to use their
24 phones without Location History enabled; right?

25 A Right.

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163

1 Q There's millions of people using their phones
2 without Location History enabled?

3 A Right.

4 Q You're not saying in your opinion these people, I
5 don't know, are just stupid because they don't know
6 how to turn it on?

7 A I'm not saying anything about those people.

8 Q Does that seem reasonable to you that tens of
9 millions of people would be using a phone without
10 Location History when they really wanted Location
11 History on?

12 A I don't know why you would make the choice one way
13 or another. That's completely up to the user.

14 Q All right. Okay. Well, let me ask you this:
15 Location Services is clearly not the same thing as
16 Location History; right?

17 A Right.

18 Q So Location Services, enabling that, that's what
19 really gets you, I guess, according to Google, kind of
20 the fun stuff of the phone; right? That allows the
21 phone to know where it is at all times; right?

22 A Right.

23 Q Realtime?

24 A Right.

25 Q And so if you wanted to -- you have Location

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164

1 Services enabled, you can turn on Google Maps and say,
2 Take me to the nearest Chick-fil-A, and it will tell
3 you right then, Go down the road, take a right, and it
4 will direct you there; right?

5 A Right.

6 Q Because it's tracking you realtime because you
7 have Location Services enabled; right?

8 A Right.

9 Q And you have Google Maps enabled and all the other
10 things; right?

11 A Right.

12 Q But that is not the same thing as Location
13 History; right?

14 A No.

15 Q Because if you have Location Services enabled, you
16 can do all the fun stuff that I call it, but without
17 Location History enabled, Google's not saving any of
18 that; right?

19 A Not that I'm aware of, no.

20 Q It doesn't go into the vault; right?

21 A I'm not sure. I don't know for sure. That would
22 be Google, but --

23 Q Well, I'm asking you, in your expert experience,
24 if you don't have Location History enabled, Google's
25 not saving the data; right?

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165

1 A It's not saving Location History. I don't know if
2 they're still saving some location information is all
3 I'm saying.

4 Q Well, do you think they're saving your Location
5 Services data when you've told them not to enable
6 Location History?

7 A So, look -- yeah, Location History is you creating
8 that data that's being stored to you. There's still
9 advertising data and things being collected. I just
10 was trying to say, as far as Location History goes,
11 you can have Location Services running and either have
12 Location History either running or not. Two different
13 things away from whether or not they still collect
14 some location data in other ways. But as far as
15 Location History goes --

16 Q They do not?

17 A Right.

18 Q So if Google tells you that the only thing the
19 government gets from a search warrant is Location
20 History, do you have any reason to doubt that?

21 A No.

22 Q And, therefore, I'm asking you if Location History
23 is not enabled, the government's not getting any
24 location data out of Google; right?

25 A Correct.

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166

1 Q We've talked real quick about our second search
2 warrant, and that's Defense Exhibit 8. And that had a
3 whole bunch of plots; right?

4 A Yes.

5 Q That's the second government's search warrant that
6 focused just on Mr. Chatrie's account; right?

7 A Correct.

8 Q It had a whole bunch because we covered, I think,
9 a little over 30 days of him traveling around; right?

10 A Correct.

11 Q But you're aware that that came after he was ID'd
12 as the likely suspect of this crime; right?

13 A I understand that.

14 Q I mean, Google didn't pick him; right? We picked
15 him; right?

16 A Correct.

17 Q And as I think I just said, this was a search
18 warrant; right?

19 A Right.

20 Q It was issued to Google; right?

21 A Correct.

22 Q Signed by a judge or a magistrate; right?

23 A Correct.

24 Q Okay. And I think you were asked, but if we could
25 go back to Government's 1, page 24. This is, in fact,

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167

1 the device ID ending in 5659; right?

2 A Correct.

3 Q This is Mr. Chatrie's phone?

4 A Correct.

5 Q That's what we said. You would agree with me that
6 this is pretty precise information about Mr. Chatrie's
7 phone; right?

8 A Yes, sir.

9 Q In fact, all the red dots on the corner there are
10 GPS marks; right?

11 A That's correct.

12 Q And all of the map radiuses are completely within
13 the 150-meter geofence with the exception of one;
14 right?

15 A Correct.

16 Q And it's multiple hits both around that large
17 church and also around the bank; right?

18 A Right.

19 Q In your law enforcement experience, do you
20 question why the government would have gone after a
21 second search warrant on this phone?

22 A No.

23 MR. DUFFEY: Judge, if I could just have one
24 second, I think I'm about done.

25 All right, Judge. Thank you. I think I'm

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168

1 done.

2 THE COURT: I do have one question.

3 Sir, do you know how towers store
4 information? Do they store it by tower? So if you're
5 doing a tower dump, what are you downloading?

6 THE WITNESS: So the carriers will look for
7 how they store it. I don't know if they store it,
8 necessarily, tower per tower, but when they do that
9 search, they are searching based on the tower
10 location. So they will query for, you know, in the
11 tower dump instance, a period of time for a specific
12 tower that the location referenced. It's searched
13 based on usage of the tower.

14 THE COURT: So you don't know if the download
15 comes from just the tower or from a bigger database?

16 THE WITNESS: Likely going to come from a
17 larger database. I doubt that the tower location is
18 holding all of the records.

19 THE COURT: All right.

20 MR. DUFFEY: May I ask two follow-ups to
21 that?

22 THE COURT: Of course.

23 BY MR. DUFFEY:

24 Q So, first, to be clear, when you're talking tower
25 dump, you're getting that information not from Google,

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169

1 you're getting that from a cell phone provider; right?

2 A Correct.

3 Q So that's Verizon or AT&T or T-Mobile or some of
4 those people?

5 A Correct.

6 Q And I think the Judge's question about what
7 database it comes from, tower dumps, we give them or
8 law enforcement gives them an address; right? And
9 they say, Here are the likely towers that if that
10 person was near that location, here are the likely
11 towers that they were hitting off of; right?

12 A Correct.

13 Q That a phone would have been connecting to; right?

14 A Yes.

15 Q And then they get -- I guess, to clarify, the data
16 is not stored at the tower, but the data is stored and
17 saved, I guess, through each tower; right? Meaning
18 once Verizon figures out, Okay, there's two towers
19 that are at issue here, they go back. They're
20 searching their database just for those two towers;
21 right?

22 A Right.

23 Q To figure out which phones likely were hitting off
24 of those towers; right?

25 A Correct.

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170

1 Q Okay. And, again, then they give up actual phone
2 numbers, not anonymous reference numbers; right?

3 A That's right.

4 Q Okay.

5 MR. DUFFEY: That's all I have, Judge.

6 THE COURT: Okay. Thank you.

7 MS. KOENIG: Your Honor, I'm going to try to
8 do this myself up here at the podium, but I'll need to
9 have the screen switched to the podium monitor,
10 please. Perfect.

11 REDIRECT EXAMINATION

12 BY MS. KOENIG:

13 Q All right, Mr. McInvaille. Before I lose track of
14 my last thought, in terms of the tower dump, so
15 when -- is it -- how does a phone -- when we have a
16 tower dump, what is the number doing? Like, the phone
17 that is received in the tower dump, what does it mean
18 that that phone has done with that tower?

19 A Generally, it's because a call or a text -- in
20 most cases, it's because a call or a text has
21 occurred.

22 Q Like, did it connect -- did that particular device
23 connect with that tower?

24 A Yes.

25 Q And so when the company is searching for all the

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171

1 devices that connected with that tower, is it just
2 looking for the phones that connected with that tower?

3 A Yes, it's the ones that they actually have records
4 for. So, again, kind of in that scenario of earlier
5 when you asked or when it was asked if a phone is just
6 sitting idle, while it will communicate or at least
7 interact with the network, that's not information
8 that's generally, it can be in some cases, recorded.

9 Most of what you see in the tower dump is due to
10 calls or texts. There are other instances, but that's
11 generally what's being requested.

12 Q If I'm a judge, and I'm issuing a warrant for,
13 like, a tower dump of Tower A, does that require the
14 phone company to look through the data for the phones
15 that connected to Tower B?

16 A I don't think so. I would think they would be
17 able to narrow it down just by the tower that they are
18 actually looking for.

19 Q Because it's specific to, like, a -- they record
20 the data as to which tower it connected with; right?

21 A Right.

22 Q Okay. Let's go way back to the Google account
23 itself. And so we've talked about a Google account
24 that's at issue in this case. Is the Google account
25 in this case a Gmail account?

McINVAILE - REDIRECT

172

1 A Right, it is.

2 Q So when we say "Google account," we're meaning
3 that Mr. Chatrie had a Gmail email address?

4 A Yes. You have to create one for an account.

5 Q Okay. What type of phone did Mr. Chatrie have?

6 A It was a Samsung S9.

7 Q Is that an Android phone?

8 A It is.

9 Q Who makes Android?

10 A The Android operating system is a Google product.

11 Q Okay. When we go back to Mr. Duffey's questions
12 about the search that's run in the Stage 1 returns, do
13 we know how Google runs the return?

14 A Other than looking inside of the Location History
15 database and drawing, you know, actually using the
16 latitude and longitude to figure out where at -- you
17 know, if this data would actually fall within there.
18 That's all I really know about how they conduct that
19 search through that database with the latitude and
20 longitude.

21 Q So let's go back to that latitude and longitude
22 point, and let's talk about it in context of Wi-Fi and
23 GPS. When we looked at Defense Exhibit 3, what are
24 the two types of sources of data, the location data,
25 that are in that Stage 1 return?

1 A And you're referring to the Wi-Fi and GPS portion?

2 Q Yes.

3 A Yes, those are two of the sources that are in
4 there.

5 Q The GPS and Wi-Fi?

6 A Yes.

7 Q So what is GPS? I know you said it was Global
8 Positioning System, but what does that mean?

9 A So that's using satellites to locate a GPS-enabled
10 device.

11 Q So I've got my phone in the courtroom. If I'm
12 connecting to a GPS satellite, how does that work?

13 A So, you don't really connect to it. The
14 satellites are broadcasting information down that can
15 be used. So GPS, you don't have the issues of loading
16 up the GPS system. It's because you're just receiving
17 the information. Your device is resolving where it is
18 based on the information it's receiving.

19 Q And that's very accurate information?

20 A It can be.

21 Q And then with Wi-Fi, how do we generate Wi-Fi
22 location data if a phone connects to a router?

23 A So, very basically, as far as how Google does it,
24 it is based on generally knowing where the access
25 point is, because they don't know the exact place

McINVAILLE - REDIRECT

174

1 within, say, your home that your access point is, but
2 they're able to figure out that, hey, this access
3 point is generally here at Laura's house.

4 Based on signal strengths, they can measure to and
5 from that device. Then you can, with a few of those,
6 resolve if I know where points A, B, and C are, and
7 the phone is getting signals from A, B, and C based on
8 signal strength, and probably some other information
9 that they put along with that, they're able to resolve
10 a location.

11 Q So I want to make sure because this is, I think, a
12 compact issue. Let me make sure I understand each
13 point.

14 So, somehow Google has determined where all these
15 Wi-Fi routers are?

16 A We, or Google users, share that information.

17 Q How do we do that?

18 A Your phone -- one of the things that you'll set up
19 in the initial setup of a device is whether or not you
20 want to share that type of information with Google. I
21 don't recall the specific wording of it, but there is
22 a place in here, Would you like to share that type of
23 information? So being able to, say, share with
24 Google, this is a -- you don't specifically tell them
25 this, but your phone will tell it, like, hey, I'm

McINVILLE - REDIRECT

175

1 here. And this is also what I see at the time, so
2 that it can be used later to make those type of
3 requests.

4 Q And so when we see in Defense Exhibit 3 in the
5 column that is regarding the sources, when we see a
6 Wi-Fi connection, does it mean that that phone has
7 actually connected to that router?

8 A No, it's not like going somewhere to, like, your
9 friend's house and connecting to the Wi-Fi. It just
10 simply sees the identifiers for that access point that
11 it's broadcasting. A connection between those doesn't
12 have to be, like, user name/password kind of
13 connection.

14 Q So if I'm at my house and I have a Wi-Fi router,
15 and I have shared somehow this information with Google
16 that I have a Wi-Fi router, do they keep that
17 information?

18 A Yes. You don't have to share it. It could be
19 your neighbors that your neighbor's device or
20 something picked this up and shared it. It's a
21 community effort, pretty much, through Google.

22 Q And so if you happen to be driving past my house,
23 can your phone see my Wi-Fi router?

24 A It's possible, depending on how far away it is,
25 things like that. But, yes, in general, your phone

McINVAILE - REDIRECT

176

1 would -- you know, say it's in close proximity to the
2 road, you could see yours and your neighbor's, as
3 well.

4 Q So if you are -- if in the points of data that
5 list out Wi-Fi, it doesn't mean that the person was at
6 the -- like, in the building or in any way associated
7 with the router from the place that the Wi-Fi is
8 indicating there's a longitude and latitude?

9 A Right. It's not a user name/password interaction.
10 This is just that it sees the identifiers for that
11 specific point.

12 Q What do you know about the ranges of Wi-Fi
13 routers?

14 A Generally, probably looking at 150 feet or so for
15 a normal router. I'm sure you could -- you know,
16 different sets could be bigger or smaller, but that's
17 kind of generally what people look at.

18 Q So when Google is estimating the longitude and
19 latitude that's listed in Columns D and E of Defense
20 Exhibit 3, how are they estimating that longitude and
21 latitude?

22 A Again, with Wi-Fi, it's because they're using
23 those -- the kind of mostly known location of access
24 points, signal strength values, to resolve a location.

25 Q So if a Wi-Fi point, the longitude and latitude is

McINVAILLE - REDIRECT

177

1 based on where Google thinks the Wi-Fi router itself
2 is?

3 A That's a piece of it, yes.

4 Q And so when you're looking at the Wi-Fi data point
5 that's plotted, the longitude and latitude, we're not
6 talking -- or are we talking about the longitude and
7 latitude that Google thinks the device was at or where
8 the connection to the Wi-Fi router is?

9 A That's where it thinks the device was at that
10 given time.

11 Q But within this larger radius?

12 A Correct.

13 Q So the phone or the device could be anywhere
14 within that blue circle?

15 A Correct.

16 Q Okay. I want to turn to Defense Exhibit 3. And
17 if you'll look -- we've been talking a lot about the
18 Stage 1 returns, which I think begin at page 6 and
19 maybe end around page 12, and I want you to look at
20 the Stage 2 returns.

21 A Is that in the same --

22 Q In the same exhibit. The Stage 2 portion of
23 Exhibit 3, which is the second spreadsheet.

24 A Okay.

25 Q Does that portion of Exhibit 3, the Stage 2 data

McINVAILLE - REDIRECT

178

1 returns, does that also have a maps display radius?

2 A Yes, all of the Location History data does.

3 Q Can you look through those map display radiuses
4 and tell us some of the larger numbers that you see?

5 A On the first page, the largest is 179. The
6 smallest, I believe, is 16, it looks like.

7 Q Let's go to the next page.

8 A This page, the largest is 413, it looks like.
9 That's on line 42.

10 Q Let's go to the third page.

11 A Line, it looks like, 75 is 164 meters.

12 Q Then let's go to the next page.

13 A 100 meters is line 104.

14 Q Okay. The next page.

15 A Line 157 is 1,797.

16 Q And let's go to the next page after that.

17 A Line 170 is 64.

18 Q What's the next page after that?

19 A 156 meters, line 231.

20 Q Next page after that.

21 A Looks like 55, which is line 264, 55 meters.

22 Q Can you go to the next page?

23 A 210. It is line 292.

24 Q Let's go to the next page after that.

25 A Line 322 is 1,573.

McINVAILLE - REDIRECT

179

1 Q Let's just have you kind of more quickly flip
2 through and tell us if you see any other large numbers
3 that are over a thousand.

4 A It's the page that begins on the Column 397 or Row
5 397 through 429. Row 420 is 1,026. The final page
6 begins with Row 661, ends in 681. The Row 681 has
7 1,838 meters.

8 Q Okay. So is it fair to say that the map display
9 radius varies depending on the longitude and latitude
10 point, the individual data point?

11 A Each point has their own display radius.

12 Q Had the geofence swept in one of these data points
13 that had a map display radius of over a thousand feet,
14 the effective radius of the geofence would have been
15 multiple thousands of feet just in the radius, in the
16 diameter?

17 A If you look at it as if the -- if that point had
18 fallen within the fence and that circle extended, and
19 then if the phone could be anywhere within that
20 circle, then I guess you could look at it that way.

21 Q So is there any way for a judge or law enforcement
22 to know ahead of time what the effective radius of the
23 geofence is going to be?

24 A I guess knowing what I know is that the only thing
25 that you can, as far as that search goes, is knowing

McINVAILE - REDIRECT

180

1 that the estimated latitude and longitude would have
2 to fall within the circle for it to be captured.

3 Q But the effective radius could end up being
4 thousands of feet or meters larger than that; right?

5 A In that scenario, I guess, yes.

6 Q I want to talk about the device ID that's listed
7 in Column A of Defense Exhibit 3. The government
8 asked you a number of questions about whether that's
9 tied to a phone number, and you've indicated that you
10 don't have any information that it is. Is that right?

11 A Correct.

12 Q Have you reviewed Ms. Rodriguez's declaration,
13 which is Defense Exhibit 24?

14 A Yes.

15 Q By Ms. Rodriguez, I mean Sarah Rodriguez from
16 Google.

17 A I have.

18 Q And in reviewing that, do you have any indication
19 that the device ID remains the same from one geofence
20 search to another?

21 A Say that again.

22 Q In reviewing Ms. Rodriguez's affidavit, does it
23 indicate to you whether the device ID, that number in
24 Column A, remains the same for each device from
25 geofence search to geofence search?

McINVAILLE - REDIRECT

181

1 A The way it's described, it appears that the kind
2 of global identifier that would face out through the
3 accounts is stripped, but that that number that you
4 see within these requests is an identifier that stays
5 with that particular device, but only within the
6 Location History database. It does not reach outside
7 of that database.

8 Q So if I have a device ID of 123, I think they're
9 more complicated than that, but if there's a device ID
10 number of 123, and device ID No. 123 is swept up in
11 geofence warrant one, if I see device ID No. 123 in
12 geofence warrant No. 2, does that mean that that is
13 the same device?

14 A Based on reading her declaration, I believe so.

15 Q Is there any obligation that the law enforcement
16 officers who obtain the returns from Google have to
17 return the data after they have used it in any way?

18 A I'm not aware of any.

19 Q Okay. Let's talk now about some of the questions
20 that Mr. Duffey was asking you about your follow-up
21 investigation. As a former law enforcement officer,
22 were you a detective?

23 A I was.

24 Q And as a detective, is it your job to do police
25 work and follow-up work?

McINVAILLE - REDIRECT

182

1 A That's what I did.

2 Q Such as get search warrants?

3 A Yes.

4 Q And do surveillance?

5 A Yes.

6 Q And try to track people down from various location
7 data points?

8 A Yes.

9 Q Were you successful in doing that?

10 A I believe so.

11 Q Is that the nature of detective work is you have
12 to actually do the work?

13 A It is. I mean, connecting the dots is what you
14 do.

15 Q Obviously, law enforcement officers would like
16 their jobs to be easier; right?

17 A Sure.

18 Q But there are sometimes stumbling blocks?

19 A There's work to be done.

20 Q But you still have to work around that?

21 A Yes.

22 Q When we were talking in advance of today, do you
23 have an example of two data points that would apply to
24 you today but nobody else probably?

25 A Yeah. I recall you asking me this before, and I

McINVAILE - REDIRECT

183

1 kind of used the example of me coming here today.

2 Q How would that work?

3 A I think I'm the only person. I haven't seen any
4 of my neighbors, but I think I'm the only person from
5 my cul-de-sac who traveled from Holly Springs, North
6 Carolina, to the federal courthouse today. I don't
7 think there's anybody else. So those two points would
8 be --

9 Q Sufficient to identify you?

10 A Yes.

11 Q Okay. And, obviously, the more points of data you
12 have, is it more likely that you're going to get a
13 precise narrowing down of who the identity is of that
14 person that's carrying that device?

15 A Can be. With what I do, more data is -- we always
16 want more data. It helps everything when you can --
17 the more you know.

18 Q I want to turn now to the screens that we were
19 talking about. So if we go to Mr. McGriff's
20 affidavit. And so this is Defense Exhibit 23 at page
21 3. If you can turn to that exhibit, please.

22 A Say that again.

23 Q Defense Exhibit 23 at page 3.

24 I'm sorry. So on Footnote 2 of page 3, Mr.
25 McGriff refers to, like, a second screen; right?

McINVAILLE - REDIRECT

184

1 A Yes.

2 Q And have you been able to determine that -- and if
3 we look up, we see on that above, that page flips into
4 paragraph 8 of Defense Exhibit 23. And that portion
5 has the Location History in bold, and then under that
6 it says "Saves where you go with your devices"?

7 A Yes.

8 Q And then under that it has "Location History.
9 Saves where you go with your devices"?

10 A Yes.

11 Q And so when Mr. McGriff seems to be talking about
12 the second screen, we've been able to determine, is
13 that really just the language that's under the drop
14 down arrow?

15 A That's what it looks like. This language that you
16 see in this under No. 8 is the same that we saw in
17 most of the other screenshots that actually show the
18 expansion arrow selected.

19 Q Because when Mr. McGriff is writing this, he's
20 indicating I don't have the screenshots -- right? --
21 of activating this? And so I'm describing what
22 language would have been presented?

23 A I don't believe so. I don't think he turned
24 over -- I think that's correct.

25 Q And so when we see the "Saves where you go with

McINVILLE - REDIRECT

185

1 your devices" language in the examples that you have
2 put forth in Defendant's Exhibit 7, all the user has
3 to see under Location History is "Saves where you go
4 with your devices," in the Norwegian example,
5 specifically, and then they can click yes, and that
6 will turn on?

7 A Yes, you can.

8 Q And that's it? You don't have to look at any of
9 that other expansion arrow?

10 A You don't have to, no.

11 Q And going back to -- I just want to make sure I'm,
12 again, clear about turning on Google Assistant. So if
13 I have my phone. I just push that little circle
14 button at the bottom; right? That's the home button?

15 A Yeah, I believe that's the icon that's used.

16 Q And you just hold it and press it for a couple of
17 seconds?

18 A It's not even really a couple of seconds. It's
19 more of just, you know, if you were clicking on
20 something on a website, how you normally just tap the
21 screen. This is more of just a press, a longer
22 version of that touch.

23 Q And so if you're doing that for the first time,
24 and you haven't already activated Google Assistant,
25 it's going to take you to the setup process; right?

McINVAILE - REDIRECT

186

1 A From what I've seen, yes.

2 Q And then when you're doing that, you either have
3 to choose yes, I'm going to do it or no, I'm not going
4 to do it to turn on Google Assistant?

5 A Right. You either "Skip" the setup of Google
6 Assistant or you go "Next," and have to choose
7 permissions.

8 Q So you just have to do two clicks; right? The
9 long press of the home button and then the "Yes, I'm
10 in"; right? You just have to do two clicks; right?
11 Or two presses or two movements of your hand?

12 A I guess it would actually be three.

13 Q What would the movements be?

14 A You're long pressing to launch the app. When that
15 comes up, then you see the "Meet your Google
16 Assistant" screen. You can select "Skip" or "Next."
17 If you select "Next," it takes you to the permission
18 screen where you have to make the selection of "Turn
19 on" or "No, thanks."

20 Q So, thank you for correcting me. So it's three
21 presses, and that could happen within probably less
22 than a second; right?

23 A I guess, yeah, you could.

24 Q Okay. Is it pretty easy to turn on Google
25 Assistant, then?

McINVILLE - REDIRECT

187

1 A Yeah, it can be.

2 Q And anywhere in the screens that have you found in
3 the research of what the screens themselves would have
4 looked like to a user setting up Google Assistant on
5 July 9th of 2018, does it indicate that deleting
6 information, that if you accept Location History, does
7 it ever indicate that deleting your information
8 doesn't stop you from tracking information in the
9 future?

10 A I'm not sure. Ask that again.

11 Q So if we go down to the drop down menu, your
12 location history. And the bottom says -- I'm sorry.
13 Not that. Not that portion. The -- so the paragraph
14 that's right above the boxes that say either "No,
15 thanks" or "Turn on." So this is on page 4 of
16 Exhibit 7, which is the second set of the July 2, 2018
17 screenshots from the Norwegian Consumer Council.

18 A Yes.

19 Q That paragraph that begins "This data may be saved
20 and used in any Google service." And the second
21 sentence says that you can delete the Location History
22 data; right?

23 A Yes.

24 Q Does that in any way indicate that if you delete
25 the Location History data, that it will still keep

McINVILLE - REDIRECT

188

1 tracking Location History data in the future?

2 A No, I don't think it indicates that it won't. If
3 just by simply deleting your old location history, no,
4 I don't think that indicates that it will stop
5 collecting more information.

6 Q But if I were -- like, if I had Location History
7 enabled, and I deleted at this time my location
8 history, would it still keep tracking my location
9 history even if I deleted the old information?

10 A If you allow it to continue to be enabled, then,
11 yes, it would.

12 Q But there's no -- when you delete it, is there a
13 portion of the deletion information that tells you
14 that you are not going -- that location history
15 information will still continue to be gathered from
16 you?

17 A I'm not aware that that's the way that it's
18 displayed, but deleting it is not going to stop it
19 from -- deleting your old history is not going to stop
20 it from collecting.

21 MS. KOENIG: If I can have just a moment,
22 Your Honor.

23 No further questions, Your Honor. Thank you.

24 THE COURT: All right. Can this witness be
25 excused?

1 MS. KOENIG: He may, Your Honor.

2 THE COURT: All right. Excused excused or
3 subject to recall?

4 MS. KOENIG: Subject to recall, Your Honor,
5 by the defense.

6 THE COURT: All right, sir. You may stand
7 down. Thank you for your testimony.

8 Because you might be subject to recall, it's
9 still as if you're testifying. You can't talk to
10 anybody about what you've testified to or what anybody
11 else has testified to. Thank you.

12 (The witness was excused from the witness
13 stand.)

14 MS. KOENIG: Your Honor, if we could take a
15 brief break before we begin the next witness.

16 THE COURT: Yes, I think it's a good time to
17 do that. So we could go -- we'll go until just five
18 minutes of three. That's a little more than 15
19 minutes.

20 MS. KOENIG: Thank you, Your Honor.

21 THE COURT: So we'll take a recess. Again,
22 nobody violate our sequester order that continues to
23 be in place. All right? Thank you.

24 (Recess at 2:35 p.m. to 2:55 p.m.)

25 THE COURT: All right. So we're returning

1 from our break. I need to, if we have folks online to
2 remind them that our Local Rule Criminal Rule 53
3 prohibits, and our standing order, prohibits anybody
4 from recording or broadcasting or telecasting these
5 proceedings. It is as if you are in court with us.
6 And we have one court reporter making our official
7 record.

8 So I understand we have a new witness, who is
9 actually in the witness box, but who needs to be
10 called and sworn. Right?

11 MR. PRICE: Thank you, Your Honor. The
12 defense calls Marlo McGriff to the stand.

13
14 MARLO MCGRIFF, called by the Defendant, first
15 being duly sworn, testified as follows:

16
17 THE COURT: All right. Mr. McGriff, we are
18 adhering to COVID protocol here. Obviously, you can
19 see we have plastic barriers. We're not within 6 feet
20 of each other unless folks have taken necessary
21 precautions. You have sanitizer there and hand
22 sanitizer.

23 When you're testifying, the only way that my
24 court reporter can hear you is through the microphone.
25 So you can either testify with or without a mask. I

McGRIFF - DIRECT

191

1 just want to be sure that it is going through the
2 microphone so we can hear you clearly. All right,
3 sir?

4 THE WITNESS: Okay.

5 THE COURT: All right. Thank you.

6 MR. PRICE: And, Your Honor, I just wanted to
7 remind the Court that we have agreed to treat Google's
8 witnesses, including Mr. McGriff, as adverse in this
9 case.

10 THE COURT: All right. I do need to remind
11 you all of one thing. On the break, I was notified
12 that I have to attend an important conference call at
13 5 o'clock. And so we're going to have to break before
14 5 o'clock. Otherwise, I wouldn't do it, but it is
15 apparently enough that we have to take a break. So we
16 will be doing that, just to give you the advance
17 notice.

18 MR. PRICE: Understood. Thank you, Your
19 Honor.

20

21 DIRECT EXAMINATION

22 BY MR. PRICE:

23 Q Mr. McGriff, hi. Good afternoon. I'm Michael
24 Price. I'm an attorney with Mr. Chatrle. Thank you
25 for being here today.

McGRIFF - DIRECT

192

1 You are a Location History Product Manager for
2 Google?

3 A That's correct.

4 Q And that means you're responsible for the Location
5 History product?

6 A That's correct.

7 Q And you've had that position since 2016?

8 A That's correct.

9 Q And you joined Google in 2011?

10 A Yes.

11 Q So you're very familiar with Google?

12 A That's correct.

13 Q And you're very, very familiar with Location
14 History in particular?

15 A Yes.

16 Q So you've helped develop it for the last five
17 years?

18 A That's right.

19 Q And now you lead the cross functional location
20 history team?

21 A That's correct.

22 Q So that means you're not just familiar with how
23 Location History works, but how it works with Google's
24 other services?

25 A That's correct.

McGRIFF - DIRECT

193

1 Q And does that include Google Assistant?

2 A Some aspects of Assistant, yes.

3 Q And you filed three declarations in this case;
4 correct?

5 A That's correct.

6 Q Your first on March 11th, 2020?

7 A I believe so, yes.

8 MR. PRICE: Can we bring up Defense Exhibit
9 1.

10 Q This is the first declaration that you filed in
11 this case?

12 A Yes. You said this is Exhibit 1?

13 Q Yes. It has previously been admitted, and it's
14 Defense Exhibit 1.

15 MS. KOENIG: 21.

16 THE COURT: 21.

17 MR. PRICE: 21, I'm sorry.

18 Q Okay.

19 A Yes.

20 Q Great. So Location History was not initially
21 designed to assist law enforcement investigations, was
22 it?

23 A That's correct.

24 Q It was designed to support Google's Timeline
25 feature as you explain on page 9?

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194

1 THE COURT: Are we entering this into
2 evidence?

3 MR. PRICE: It is already in evidence, Your
4 Honor.

5 THE COURT: No, it's not. No. 3 is in
6 evidence.

7 MS. KOENIG: I have Exhibit 21 is admitted
8 into evidence with Mr. McInvaille, Your Honor.

9 THE COURT: Oh, it sure is. My apologies.
10 It's 22 that isn't. My apologies.

11 A That's correct. It mentions, if I'm looking at
12 page 9, it mentions Timeline as a feature, yes.

13 THE COURT: So, sir, I didn't hear a word of
14 that. So I think the microphone needs to be a little
15 closer to you. And it's natural when you're sort of
16 looking away from the document at the document that
17 you also turn away from the microphone. It's an
18 unnatural way to speak, but we want to be sure that we
19 get it accurately. All right?

20 THE WITNESS: Okay. Sorry about that.

21 BY MR. PRICE:

22 Q So could you repeat that answer? Location History
23 was designed to support Google's Timeline feature;
24 correct?

25 A That's correct.

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195

1 Q And as you wrote in your first declaration, also
2 on page 9, "The purposes for which Google designed
3 Location History do not depend on any individual
4 stored Location History data points"?

5 A That's correct.

6 Q In other words, Google can infer where a person is
7 heading with their device even with a few points
8 registering along their path?

9 A I'm not sure that I follow that question.

10 Q Google uses Location History to infer a user's
11 location; correct?

12 A I wouldn't use it -- I wouldn't frame it in that
13 way, but various signals are used to infer where a
14 user is. That's how we infer a user's location. And
15 then those inferences are stored, which create the
16 history.

17 Q Sure. And if somebody is traveling along a path,
18 and one dot is kind of off out of the way, Location
19 History will snap that point right back onto the path;
20 correct?

21 A Only if it makes sense. We do filter out like an
22 outlier because that sort of teleportation can happen.

23 THE COURT: That sort of what?

24 THE WITNESS: Sorry. There can be an outlier
25 point. But, logically, if I was here, and then

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196

1 there's one point I'm sitting in -- let's say I was
2 sitting here for an hour. And there's one point
3 that's not where I've been sitting for the hour.
4 That's an outlier point, but yes.

5 Q My point is, it's precise enough for what it was
6 designed to do for Timeline?

7 A That's correct.

8 Q And that's why you wrote, "Location History" --
9 this is also on page 9, Slide 2, this is why you
10 wrote, "Location History is sufficiently precise and
11 reliable for these purposes for which Google designed
12 Location History"; correct?

13 A That's correct.

14 Q That indicates, though, that there's maybe more
15 than one purpose for Location History; correct?

16 A Yes.

17 Q Another purpose of Location History, as you wrote
18 in the same paragraph, is to serve ads based on user
19 location?

20 A Yes.

21 Q And for some advertisers you also provide
22 information about store visit conversions; is that
23 true?

24 A That's correct.

25 Q Could you explain what store conversions are?

McGRIFF - DIRECT

197

1 A So, for Location History, we never share anyone's
2 location history with a third party. So there's no
3 instance where you would share with a third party that
4 I went into a particular store. What Location History
5 is used for in terms of advertising is very
6 specifically ads measurement. And so that is for a
7 particular campaign, how many users who saw a
8 particular ad actually went to one of those stores.
9 And that's the store visit conversion or ads
10 measurement you're referring to.

11 THE COURT: Okay. You're just talking too
12 quickly. I'm so sorry.

13 THE WITNESS: I'm sorry.

14 THE COURT: It sounds as if that's the way
15 you normally talk, but pretend like I'm three, and
16 slow down a little, if you don't mind.

17 THE WITNESS: Yes, absolutely.

18 BY MR. PRICE:

19 Q So Google is doing this in a privacy protective
20 way; correct?

21 A That's correct.

22 Q It's not giving user location data over to stores
23 about who was around?

24 A No.

25 Q And businesses can also use Google to target ads

McGRIFF - DIRECT

198

1 based on a device's location?

2 A Not using Location History, though.

3 Q Right. They're not using the user's thing.

4 They're going to Google, and they're attempting to
5 target ads based on geography?

6 A Yes.

7 Q Okay. In fact, it's possible to do something
8 called radius targeting; is that true?

9 A Yes, but I'm not totally familiar on the full ad
10 suite of products.

11 Q My understanding is that it allows a business to
12 target ads to users that are within a certain distance
13 of that business.

14 A That sounds correct, yes.

15 Q And there's a minimum radius that advertisers can
16 select when doing that; right? You can't make your
17 radius 4 meters or something like that?

18 THE COURT: Okay. Now you're also fading
19 out.

20 There you go.

21 MR. PRICE: Sorry.

22 BY MR. PRICE:

23 Q There's a minimum radius that advertisers must
24 adhere to. They can't select I believe it's less than
25 a kilometer or less than a mile radius?

McGRIFF - DIRECT

199

1 A That sounds correct.

2 Q And those businesses don't actually get to see
3 which devices are in the area; correct?

4 A Not that I'm aware of, no.

5 Q And the businesses can't go back to Google and ask
6 for more information about where a particular user was
7 half an hour before or half an hour later?

8 A No.

9 Q They can't get any information at all about
10 individual users; correct?

11 A Not that I'm aware of, no.

12 Q And that's true even when you're tracking store
13 visit conversions, no exceptions?

14 A That's correct.

15 Q So Google filed an amicus brief in this case. Are
16 you aware of that?

17 A Yes.

18 Q You're probably familiar with it. You probably
19 helped put it together?

20 A Yes.

21 MR. PRICE: I'd like to bring up Defense
22 Exhibit 2.

23 Q Is this the amicus brief?

24 A Which --

25 Q It's also on your screen as Defense Exhibit 2.

McGRIFF - DIRECT

200

1 A I don't think my screen is actually updating.

2 It's been static on the same --

3 MS. KOENIG: It is different, but they are
4 white papers with letters on them.

5 THE WITNESS: Maybe it just looks the same.

6 BY MR. PRICE:

7 Q It should say "Brief of Amicus Curiae Google LLC."

8 A I see it. Thank you.

9 Q So that's the amicus brief that Google filed that
10 you helped prepare?

11 A Yes.

12 MR. PRICE: I'd like to admit that into
13 evidence, Your Honor.

14 THE COURT: No objection, right?

15 MR. SIMON: No objection, Judge.

16 THE COURT: It will be admitted for purposes
17 of the hearing, too.

18 MR. PRICE: Thank you.

19 (Defense Exhibit No 2 is admitted into
20 evidence.)

21 BY MR. PRICE:

22 Q So on pages 5 to 6, Slide 4, the brief goes out of
23 its way to correct a misconception in this case;
24 correct?

25 A That's correct.

McGRIFF - DIRECT

201

1 Q Google says that a geofence warrant is not really
2 analogous to a so-called tower dump?

3 A Yes.

4 Q And the brief states, "In fact, while Google
5 Location History information bears some similarities
6 to those types of data in some respects, it is
7 different in important ways that are highly relevant";
8 right?

9 A Yes.

10 Q And it goes on to explain, with respect to cell
11 site location information, which is how tower dumps
12 work, "When law enforcement seeks access to CSLI,"
13 cell site location information, "it is thus asking the
14 wireless carriers to produce its own business records
15 showing when a particular device connected to a cell
16 site within a particular period of time. A request
17 for a tower dump likewise seeks the wireless carrier's
18 own business records. In that case, identifying every
19 phone that connected to a particular cell site or
20 tower in a particular period"; correct?

21 A Yes.

22 THE COURT: What page are you on?

23 MR. PRICE: That is page 9, Your Honor.

24 THE COURT: Thank you.

25 BY MR. PRICE:

McGRIFF - DIRECT

202

1 Q And there are only so many people that can connect
2 to one cell tower at a time; right?

3 A That's correct.

4 Q And so there's sort of an upper limit on the
5 number of users that can be searched as a result of a
6 tower dump?

7 A That I don't know.

8 Q Well, if you're choosing, say, three towers to
9 search, and there's a maximum number of people that
10 can be on one tower at a time, would you agree there's
11 a maximum, there's a cap?

12 A That has to be some cap, yes.

13 Q There's a natural limit?

14 A Yeah.

15 Q And that would be true even if the tower dump
16 involved more than one tower. There would still be
17 that sort of upper limit. And that differs from how
18 geofence searches work; right?

19 A That's correct.

20 Q That's because -- and this is on page 8 of your
21 first declaration, which is Exhibit 21, Defense
22 Exhibit 21. You explain that's because, unlike tower
23 dumps, Google does not know which users may have saved
24 Location History data before conducting the search and
25 running computations; correct?

McGRIFF - DIRECT

203

1 A That's correct.

2 Q And going back to the amicus, and I apologize for
3 the -- this is Slide 7 at page 12. Google says it
4 "has no way to know ex ante which users may have
5 Location History data indicating their potential
6 presence in particular areas at particular times"; is
7 that correct?

8 A That's correct.

9 Q So, unlike a tower dump, there is no way of just
10 searching Location History records for people in one
11 area in the way that you do with a tower dump by
12 looking at a tower?

13 A That's correct.

14 Q You have to search all of the records for every
15 user with Location History enabled; right?

16 A Yes.

17 Q And this is at your first declaration, page 8,
18 Slide 8. You say in your first declaration, To
19 conduct a geofence search, Google must search across
20 all Location History data to identify users with
21 Location History data during the relevant time frame;
22 correct?

23 A Yes.

24 Q And you then have to run a computation against
25 every set of stored Location History coordinates to

McGRIFF - DIRECT

204

1 determine which records match the geographic
2 parameters in the warrant?

3 A Yes.

4 Q And then, as Google explains in its amicus,
5 similarly, page 12, "In order to comply with the first
6 step of the geofence protocol, therefore, Google must
7 search across all Location History journal entries to
8 identify users with potentially responsive Location
9 History data, and then run a computation against every
10 set of coordinates to determine which Location History
11 records match the time and space parameters in the
12 warrant"?

13 A Yes.

14 Q So for every geofence warrant, Google has to
15 search across all Location History journal entries,
16 and then it has to run a computation against every set
17 of coordinates; correct?

18 A Yes.

19 Q In other words, you had to search everybody with
20 Location History enabled?

21 A Yes.

22 Q That's what happened in this case?

23 A Yes.

24 Q To look for users in the geofence provided by the
25 warrant, Google had to search literally everybody with

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205

1 Location History enabled?

2 A Yes.

3 Q I want to try and figure out just how many people
4 had their data searched in this case. So Google
5 searched all accounts with Location History enabled,
6 and in your first declaration -- this would be the
7 fourth page, paragraph 13 -- you say, In 2019, roughly
8 one-third of active Google users, i.e., numerous tens
9 of millions of Google users, had their Location
10 History enabled on their accounts?

11 A Yes.

12 Q Numerous tens of millions. That's a lot.

13 A Yes.

14 Q Can you tell us precisely how many?

15 A At that point in time, I cannot.

16 Q Let's try it a different way. Google owns
17 Android; right?

18 A That's correct.

19 Q And you know that Android has a Twitter account?

20 A I'm certain they do, yes.

21 Q And occasionally it tweets updates about Android.
22 Yes?

23 A Yes.

24 Q And in May 2019, Android said they had 2.5 billion
25 active users; is that accurate?

McGRIFF - DIRECT

206

1 A I have not seen that tweet.

2 Q Well, I believe we can show it to you. It's
3 Defense Exhibit 55.

4 A The tweet says 2.5 billion active devices. It
5 doesn't speak to accounts.

6 Q As a rough estimate, would that differ
7 significantly from the number of users?

8 MR. SIMON: Judge, I'm going to object. He's
9 answered the question. He said he doesn't know. The
10 pressing on, I think particularly given the time
11 constraints, the witness had answered the question to
12 the extent he has personal knowledge.

13 THE COURT: Just finish answering that
14 question and we will move on.

15 A I wouldn't be able to say.

16 Q Okay.

17 THE COURT: Are you moving that into evidence
18 or not? Is it just demonstrative?

19 MR. PRICE: It was just demonstrative, Your
20 Honor.

21 BY MR. PRICE:

22 Q If you had to take a rough estimate at the number
23 of active users in 2019, do you think it would be much
24 different than 2.5 billion?

25 A I would not even know where to begin to make that

McGRIFF - DIRECT

207

1 assessment.

2 Q So you don't know how many people have Location
3 History enabled? I mean, presumably, you said you're
4 in charge of the Location History product.

5 A Yes. If the question is how many users were opted
6 in to Location History in 2019, I do not know that
7 number off the top of my head. My clarifying
8 questions would be at a particular point in 2019,
9 because it's not a static number? Or were you just
10 looking for a rough range or average? But, again, I
11 wouldn't know that off the top of my head.

12 I remember at the time of preparing this that it
13 was roughly a third, the Android number, but I do not
14 know the Android number again off the top of my head.

15 Q And if we take, for example, if we say 2.5 billion
16 as the Android number, a third of that would translate
17 into about 800 million, just generally.

18 A The Android number here was referencing devices,
19 though. I, for example, have multiple devices, but
20 only one account that I'm using across all those
21 devices.

22 Q In your estimation as the Location History Product
23 Manager, would you estimate that there were more or
24 less than 800 million users with Location History
25 enabled at some point in 2019?

McGRIFF - DIRECT

208

1 A Users as in they have the account on, Location
2 History on, or Location History on and actively
3 reporting?

4 Q Enabled on their accounts.

5 A That I couldn't say. That I couldn't say.

6 Q Okay. In any case -- all right. We'll move on.

7 I want to talk about how Google processes Location
8 History geofence warrants. When Google receives a
9 geofence warrant, what happens? What is the process?

10 A I'm not involved in the processing of the warrants
11 in any way.

12 Q Do you know if there are any rules that Google has
13 about the size of a geofence warrant?

14 A I know at a high level the team works to be
15 sure -- at a high level I know that there's some back
16 and forth in terms of the refinement of the request,
17 but I'm not involved in the details of that
18 refinement.

19 Q What do you mean, back and forth about the
20 refinement of a request?

21 A Just clarification. Do we have the right details?
22 There's some process. I believe there's someone else
23 who's a witness who can speak to it in detail, but I'm
24 not involved in that process at all.

25 Q So you don't know if there's an upper limit on the

McGRIFF - DIRECT

209

1 size of a geofence that Google would respond for?

2 A I am not involved in that at all day-to-day.

3 Q If we asked for all the data in a city over a
4 two-week period, would Google comply with that?

5 A I can say with certainty they likely wouldn't, but
6 I have no idea what their parameters are for that.

7 Q Do you know what the rules are for narrowing
8 things down at each stage of the process?

9 A I do not.

10 Q So when the government comes back in Stage 2 and
11 says, Well, you know, we want all of them, do you know
12 if that's okay or not?

13 A Again, my knowledge and involvement with that
14 process is limited to something is wrong in their
15 processing, and there's an ask to understand why some
16 particular aspect of retrieving whatever they've
17 decided fits within scope is not retrieving in the way
18 that it should.

19 Q What do you mean "not retrieving in the way that
20 it should"?

21 A That there's some delay or some sort of just
22 general process breakdown. I'm often engaged to --
23 not often, but when it happens, I'm engaged to assist
24 with looking into the issue, but, again, I'm not
25 involved in either the receipt of or the processing of

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210

1 or the response to.

2 Q Okay. You're aware that Google has notified some
3 users when they've been the subject of a geofence
4 warrant; right?

5 A That's correct, yes.

6 Q You're aware that just recently Google notified a
7 Minneapolis user who is the subject of a geofence
8 warrant targeting protesters following the death of
9 George Floyd?

10 A I was not aware of that, no.

11 Q Were you aware that Google notified a user in
12 Florida who is the subject of a geofence warrant from
13 the Gainesville Police Department?

14 A I was not aware of that, no.

15 Q In which cases are you aware of Google notifying
16 users of a geofence warrant?

17 A I am not involved in any way in the day-to-day
18 processing of geofence warrants, their receipt, any
19 responses. That is not involved in my day-to-day
20 whatsoever.

21 Q Are you aware that Google never notified
22 Mr. Chatrue that he was the subject of a geofence
23 warrant in this case?

24 A I would not be able to comment on that.

25 Q I assume you don't know, then, the rules for when

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211

1 Google will notify users that they are the subject of
2 a geofence warrant?

3 A I do not know that, I'm sorry.

4 Q Okay. I want to go back to your first
5 declaration, page 7. It says, "Location History is
6 the only form of location data that Google maintains
7 that Google believes to be responsive to a geofence
8 request"?

9 A That is correct, yes.

10 Q And Location History is the only form of location
11 data that was produced to the government in this case?

12 A To my knowledge, yes.

13 Q So no Google Location Accuracy data, no Web & App
14 Activity data?

15 A No.

16 Q And the reason for that is because only Location
17 History -- well, let me take a step back. When the
18 government makes a geofence request, does it specify
19 that it wants to search only Location History?

20 A I don't believe so.

21 Q And Google does actually maintain location data
22 apart from Location History in Web & App Activity, for
23 example?

24 A Some location information can be captured in Web &
25 App Activity, yes.

McGRIFF - DIRECT

212

1 Q But Location History was the only repository of
2 location data that Google searched in this case?

3 A Yes.

4 Q That's because only Location History is
5 sufficiently granular to be responsive and searchable?

6 A That is my understanding, yes.

7 Q And only Location History is able to pinpoint a
8 user's estimated location with enough precision?

9 A That is correct.

10 Q So Google decided that only Location History was
11 precise enough to be searched in response to a
12 geofence warrant?

13 A That is my understanding, yes.

14 Q Okay. Now, even though you said pinpoint, and
15 this is page 8 of your declaration, the location data
16 points reflected in Location History are really
17 estimates; is that right?

18 A That's correct.

19 Q A user's actual location doesn't necessarily align
20 perfectly with any one isolated data point?

21 A Yes.

22 Q There's a confidence interval, a number associated
23 with each set of Location History coordinates that
24 reflects Google's confidence in those coordinates?

25 A Yes.

McGRIFF - DIRECT

213

1 Q And this number is expressed in meters as a
2 radius?

3 A Yes.

4 Q And it's called the display radius; is that
5 correct?

6 A Yes.

7 Q So it can be visualized as a shaded circle around
8 the coordinates?

9 A Yes.

10 Q The magic blue circle around the blue dot?

11 A Yes.

12 Q And on pages 8 to 9, you say Google aims to
13 accurately capture roughly 68 percent of users with
14 this method?

15 A Yes.

16 Q Or, in other words, there's a 68 percent
17 likelihood that a user is somewhere inside of that
18 shaded circle, or at least that's Google's goal?

19 A Yes.

20 Q That means there's a 32 percent chance that
21 they're outside of that circle altogether?

22 A Yes.

23 Q Not necessarily at the blue dot?

24 A Yes.

25 Q Is it just as likely that the user's actual

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214

1 location would be near the edge of that circle as
2 opposed to smack dab in the middle?

3 A Yes.

4 Q So you're equally confident -- you're confident
5 that the user is in that circle, 68 percent, but where
6 you put those coordinates doesn't necessarily
7 translate into that same amount of confidence. You're
8 still only 68 percent confident?

9 A That the device is within those coordinates, yes.

10 Q Okay. So, moving on to page 9, you stated that if
11 the estimated location, the stored coordinates in
12 Location History, falls within the radius of the
13 geofence request, then Google treats that user as
14 falling within the scope of the request; correct?

15 A Yes.

16 Q So, in other words, if the blue dot is inside of
17 that geofence, inside of that radius, then Google will
18 consider it responsive to the warrant?

19 A Yes.

20 Q You consider it responsive even if that shaded
21 circle, the confidence interval display radius, falls
22 partly outside the radius of the geofence request?

23 A That is my understanding, yes.

24 Q So you can have a little blue dot right close to
25 the edge of that geofence with a big display radius

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215

1 that goes way beyond it, and that user is still going
2 to be recorded in the geofence return?

3 A Yes.

4 Q So you consider it responsive even if the shaded
5 circle falls partly outside? And even then, you can't
6 say where inside that circle the user was?

7 A No.

8 THE COURT: What question did you answer? He
9 asked two questions. Do you think if it's outside the
10 circle, it's responsive?

11 Why don't you rephrase the question.

12 BY MR. PRICE:

13 Q So even if part of that display radius falls
14 outside of the geofence, it's still considered
15 responsive?

16 A Yes.

17 Q Even though there's a 68 percent chance that that
18 person is somewhere outside the actual geofence within
19 that display radius?

20 A Yes, that would still be considered responsive.

21 Q Even though there's a 32 percent chance that
22 they're not even there and somewhere else?

23 A Yes.

24 Q Okay. So there's a significant likelihood that at
25 least some of the users identified as being inside the

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216

1 geofence might have been outside of that geofence?

2 A There is a possibility, yes.

3 Q Google has to draw the line somewhere; right? And
4 this practice makes sense from Google's perspective?

5 A This is the process, yes.

6 Q The warrant didn't tell you to do it this way;
7 right?

8 A This is the process by which we respond to these,
9 yes.

10 Q It's Google's process. It didn't tell you to do
11 this in the warrant?

12 A (Nodded head affirmatively.)

13 Q And no court told you to do that; right?

14 A This particular process of identification?

15 Q Yeah, to draw the line and say, well, we're going
16 to report people whose blue dots are inside, and
17 that's the way it's going to work.

18 A This is the process that we use to respond to
19 these, yes.

20 Q Okay. So false positives are possible here?

21 A Yes.

22 Q And you say this, page 9 of your first
23 declaration, 17. You said, "As a result, it is
24 possible that when Google is compelled to return data
25 in response to a geofence warrant, some of the users

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217

1 whose locations are estimated to be within the radius
2 described in the warrant, and whose data is therefore
3 included in data production, were in fact located
4 outside the radius"?

5 A Yes.

6 Q False negatives are possible, too; right?

7 A Yes.

8 Q So if somebody was standing -- if somebody was
9 actually right outside that geofence radius, but
10 Google estimated their location as being inside of it
11 or, I'm sorry, other way around. If the blue dot
12 falls outside the geofence, you don't include it even
13 though the person could have been inside of that
14 geofence?

15 A That's correct.

16 Q Okay. Even if part of the shaded circle falls
17 within the geofence, if that blue dot is outside,
18 nothing?

19 A Yes.

20 Q The warrant, once again, didn't tell you to do it
21 that way?

22 A This is our process, yes.

23 Q The Court didn't tell you to do it that way?

24 A This is our process, yes.

25 Q It's just your process. Great.

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218

1 All right. I want to switch gears a little bit
2 here and talk about some of the feedback that Google
3 has received about Location History. You published a
4 blog for Google on December 9, 2019; correct?

5 A Yes.

6 Q It was titled "Updates to Incognito Mode and Your
7 Timeline in Maps"?

8 A Yes.

9 Q Let me show you Exhibit 47. Is this the blog
10 post?

11 A Yes.

12 MR. PRICE: Your Honor, I'd like to introduce
13 this into evidence, please?

14 THE COURT: Any objection?

15 MR. SIMON: No objection, Judge.

16 THE COURT: It will be entered.

17 MR. PRICE: Thank you.

18 (Defense Exhibit No. 47 is admitted into
19 evidence.)

20 BY MR. PRICE:

21 Q So you wrote --

22 MR. PRICE: This is on 19, Laura.

23 Q You wrote that throughout this year, we've focused
24 on making it easier to control, manage, and delete
25 your Location History information; correct?

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219

1 A Yes.

2 Q And earlier that year, same year, you published
3 another blog post for Google. This one on May 1,
4 2019.

5 A Yes.

6 Q It was titled "Introducing Auto Delete Controls
7 for Your Location History and Activity Data"?

8 A Yes.

9 Q Is this the blog post?

10 A Yes.

11 MR. PRICE: Your Honor, this is Defense
12 Exhibit 46. We'd like to move it into evidence, as
13 well.

14 THE COURT: Any objection?

15 MR. SIMON: No objection.

16 THE COURT: It will be entered.

17 (Defense Exhibit No. 46 is admitted into
18 evidence.)

19 Q So you wrote, "We work to keep your data private
20 and secure, and we've heard your feedback that we need
21 to provide simpler ways for you to manage or delete
22 it"; correct?

23 A Yes.

24 Q I would like to talk about some of that feedback
25 for a second that you received. In fact, Location

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220

1 History has received some significant media attention
2 and received significant media attention in 2018; is
3 that correct?

4 A Yes.

5 Q And that attention was pretty negative?

6 A It was mixed, yes.

7 Q In January 2018, there's an online type magazine
8 called "Quartz," and they published an article
9 discussing Location History. Do you mean that?

10 A Yes.

11 Q It was titled, "If You're Using An Android Phone,
12 Google May Be Tracking Every Move You Make." This is
13 the article?

14 A Yes.

15 MR. PRICE: This is Defense Exhibit 48, Your
16 Honor. And I would like to move it into evidence.

17 MS. KOENIG: It already is in evidence.

18 MR. PRICE: It already is in evidence. Thank
19 you.

20 Q So speaking of Location History, it says,
21 "Although the product behind those transmissions is
22 opt-in, for Android users it can be hard to avoid and
23 even harder to understand"; correct?

24 A Yes.

25 Q And it goes on to say, "While it is not enabled on

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221

1 an Android phone by default, or even suggested to be
2 turned on when setting up a new phone, activating
3 Location History is subtly baked into setup for apps
4 like Google Maps, Photos, the Google Assistant, and
5 the primary Google app"; correct?

6 A Yes, that's what the article says.

7 Q And then it adds --

8 THE COURT: There's an objection.

9 MR. SIMON: Judge, I just object to the way
10 in which this is being entered into evidence,
11 particularly that first sentence. I didn't object at
12 the time, but the way the record is going to read is
13 that Mr. McGriff is saying that he agrees with this.
14 I would prefer, Judge, and I think the record would be
15 clearer, if he's going to put these assertions in
16 front of the witness, ask him to assess them.

17 THE COURT: At the very least --

18 MR. PRICE: Your Honor, I am not -- sorry.

19 THE COURT: Okay. You can respond.

20 MR. PRICE: We are not introducing these
21 articles for the truth of the matter. We are
22 introducing them because they constitute feedback
23 which Google received.

24 THE COURT: I know, but what you're doing is
25 saying that the declarative statements, and you're

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222

1 starting it by saying "It says this. Is that right?"
2 He says yes. It's going to create a record where you
3 can cut off the front where you say it says this,
4 quote it, and then say yes.

5 So what we're trying to do is create a fair
6 record here. You are getting him to indicate that
7 there are statements in this article and whether or
8 not he knew them. And so that is really the point.

9 I would agree that this way it's being asked,
10 it sounds as if you're trying to get him to, although
11 you're not doing it that way, but it does sound as if
12 you're trying to get him to sound as if he's agreeing
13 with a declaration.

14 So it's sustained to that degree. And I'll
15 just ask you to use the nuances. You're still making
16 your point. But do it in a different way.

17 MR. PRICE: Okay.

18 BY MR. PRICE:

19 Q The article here criticized Location History;
20 correct?

21 A Yes.

22 Q And the article looked at testing multiple phones
23 to see what this process was like; correct?

24 A Yes, it did.

25 Q And it faulted Google, didn't it?

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223

1 A The article did, yes.

2 Q And it faulted it because it said that none of the
3 apps used the same language to describe what happens
4 when Location History is enabled; correct?

5 A That is one of the things they cited, yes.

6 Q And it also criticized Google for not explicitly
7 indicating that activation will allow every Google
8 app, not just one seeking permission, to access
9 Location History data. So they're complaining about
10 account level nature of the setting.

11 THE COURT: The what?

12 MR. PRICE: Account level nature of the
13 setting.

14 THE COURT: You need to look at the
15 microphone.

16 A Yes, they are in the article.

17 Q Okay. And that account level setting, that means
18 that when you turn on Location History through one
19 app, it's on for the entire account; right?

20 A When you opt in to Location History, you are
21 opting in for your account, yes.

22 Q Thank you.

23 So the press didn't stop with the Quartz article.
24 I imagine you're aware that the Associated Press also
25 published an article about Location History in 2018?

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224

1 A Yes, I am aware of that article.

2 Q Is this the article?

3 A That is the article, yes.

4 Q It's titled "Google Tracks Your Movements, Like It
5 or Not"?

6 A Yes, that's the title of the article.

7 Q Thank you.

8 MR. PRICE: And this is Defense Exhibit 49,
9 Your Honor. And we would ask to move this into
10 evidence, as well.

11 THE COURT: Any objection?

12 MR. SIMON: Judge, we just reiterate our
13 earlier objections. We think it lacks relevance,
14 particularly when you have a Google witness here to
15 address the issue. It's obviously hearsay.
16 Understanding that the rules of evidence wouldn't
17 strictly apply here, but I think the best route here
18 is to question the witness about, like, the Quartz
19 article assertions. But I know the Court has
20 previously ruled, but we'd object to it being entered
21 into evidence.

22 THE COURT: Right. He's allowed to make his
23 case. I will allow it for the limited purpose, not
24 for the truth of the matter, but to the extent it
25 has -- the witness has already testified that he was

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225

1 aware of the article. And so I think it is relevant
2 for background information. And you all can
3 cross-examine with respect to weight. All right?

4 MR. SIMON: Understood.

5 MR. PRICE: Thank you, Your Honor.

6 Sorry. I did move to have the article
7 introduced. I'm not sure if there was a ruling on
8 that, Your Honor.

9 THE COURT: Right. I overruled the
10 objection, and so it will go in.

11 MR. PRICE: Thank you.

12 (Defense Exhibit No. 49 is admitted into
13 evidence.)

14 BY MR. PRICE:

15 Q So the article's main complaint here is that it
16 says, "Even with Location History paused, some Google
17 apps automatically store time-stamped location data
18 without asking." That's just the complaint in the
19 article; correct?

20 A That's the complaint in the article, yes.

21 Q But it was a complaint that Google ended up taking
22 pretty seriously, especially given the interest from
23 members of the Senate, for example?

24 A We take all complaints seriously, yes.

25 Q Here the article actually quoted United States

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226

1 Senator Mark Warner; correct?

2 A Yes, the article does quote the Senator.

3 Q And he complained that it's frustratingly common
4 for technology companies to have corporate practices
5 that diverge wildly from the reasonable expectations
6 of their users. Was that his statement?

7 A That was his statement, yes.

8 Q You were aware that he made that statement;
9 correct?

10 A I was aware that he made that statement, yes.

11 Q And at the end, it quotes a Yale researcher, Sean
12 O'Brien, and he called this practice disingenuous;
13 right?

14 A That is what he said, yes.

15 Q So this was a pretty negative report about
16 Location History from Google's perspective; correct?

17 A It was not a flattering report, that's correct.

18 Q Google actually tracked the media coverage of this
19 report; correct?

20 A As we do often for all media reports, yes.

21 Q And Google prepared what's called an issue
22 coverage report for this article for four days?

23 A That's correct, yes.

24 Q I'd like to show you Defense Exhibit 38, please.

25 Are these the issue coverage reports that you were

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227

1 referring to?

2 A That's correct, yes.

3 Q And it makes it clear that this story was pretty
4 widely covered; correct?

5 A That's correct, yes.

6 Q If we check out one of those reports --

7 THE COURT: What exhibit are you on?

8 MR. PRICE: Sorry. Excuse me?

9 THE COURT: Which exhibit?

10 MR. PRICE: Sorry. This is Defense Exhibit
11 38, Your Honor.

12 THE COURT: 38?

13 MR. PRICE: Yes. And I forgot to move it
14 into evidence. I would move for this to be admitted
15 into evidence, as well.

16 THE COURT: Is there any objection to Defense
17 38?

18 MR. SIMON: No objection, Judge.

19 THE COURT: All right. It will enter.

20 (Defense Exhibit No. 38 is admitted into
21 evidence.)

22 BY MR. PRICE:

23 Q So if we look at the issue coverage reports, we
24 see that Google wrote, the AP tweeted the story out,
25 which created a surge of social chatter, approximately

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228

1 8,000 re-tweets. And the story was picked up by 60
2 plus outlets, including the *New York Times*, *U.S. News*
3 *and World Report*, and the *Washington Post*; is that
4 accurate?

5 A That's accurate.

6 THE COURT: It's accurate that it's in there.
7 You're continuing to ask the questions in the same
8 way. And so, you know, you're making points, but you
9 are making the points. It's the witness who needs to
10 be able to talk about what it is that is or is not in
11 an exhibit.

12 That is what is in the exhibit.

13 MR. PRICE: Thank you, Your Honor.

14 BY MR. PRICE:

15 Q Google's report explained the coverage themes for
16 these stories; is that correct?

17 A That's what's in the report, yes.

18 Q And the report noted the top two themes for this
19 article? It said, the report said, that 69 percent of
20 the coverage mentioned the lack of user consent/creepy
21 factor?

22 A That's what is in the report, yes.

23 Q And the report also noted that a third of the
24 coverage was about misleading controls?

25 A That's in the report, yes.

McGRIFF - DIRECT

229

1 Q Just a few days later, Google changed the language
2 on its help page. On its Location History help page.
3 You're aware of that, I assume?

4 A Yes.

5 Q It was in response to this article; is that
6 correct?

7 A Which update are you referring to specifically?
8 Is it an exhibit here?

9 Q It was three days later. And that would have been
10 on August 17, 2018.

11 A Is there an exhibit here I can look at?

12 Q Yes. We'll get there.

13 So three days later -- sorry -- three days later
14 it was reported that Google changed its Location
15 History help page, as well; is that correct?

16 A I can't say that we made an update three days
17 later.

18 Q The Associated Press published an article just a
19 few days later about that change. Are you aware of
20 that?

21 A Is that in this book?

22 Q We can show you the article if you'd like. Would
23 that help?

24 A Well, I guess, the Associate Press reported that
25 we made -- that Google made a change three days later.

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230

1 Q Yes.

2 A So if that's in there, yes, then that is what they
3 reported.

4 Q And you do recall Google making a change to its
5 Location History help page shortly after this article?

6 A I recall in some period of time, yes, we made
7 updates to our pages.

8 Q Okay. That's fine. The bad press, so to speak,
9 here had some ramifications for Google in terms of
10 oversight from the federal government; is that
11 correct?

12 A It did.

13 Q In May 2018, are you aware that two United States
14 Senators wrote a letter to the Federal Trade
15 Commission about Location History?

16 A Yes.

17 MR. PRICE: And this is 36, Laura.

18 Q Is this the letter?

19 THE COURT: Okay. Is this Defense Exhibit
20 36?

21 MR. PRICE: This is Defense Exhibit 53, Your
22 Honor.

23 THE COURT: Okay.

24 Q I'd like to show you what's marked as Defense
25 Exhibit 53. It's a letter from two United States

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231

1 Senators; correct?

2 A Yes.

3 MR. PRICE: Your Honor, I would like to move
4 this letter into evidence.

5 THE COURT: Any objection?

6 MR. SIMON: Judge, I think there are multiple
7 letters in Exhibit 3 (sic), including Google's
8 response on January 12, 2018. We'd obviously object
9 generally based on what we've talked about before, but
10 I understand the Court will admit it not for the truth
11 of the matter asserted, but for -- just to allow the
12 question.

13 THE COURT: All right. I'm going to allow
14 this for the limited purpose that we have been looking
15 at these documents.

16 So, to make a record, this is Defense Exhibit
17 53, which is a letter dated May 11, 2018, that has a
18 signature of Richard Blumenthal from the United States
19 Senate.

20 It then has something marked an attachment.
21 And the attachment says "Letter from Susan Molinari.
22 Received by Senators Blumenthal and Markey." And that
23 is then followed by a January 12, 2018 document on
24 Google letterhead. So it predates this May 18th
25 letter.

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232

1 And then there is something that has an
2 Attachment 4. So you have to be clear about what
3 you're admitting and under what circumstances.

4 The United States is correct that it's
5 confusing to say we're admitting just one letter.
6 There's actually a series of documents here.

7 So you can ask questions to establish why
8 they're there, but the whole -- what so far we have
9 admitted is part of 53, the May 11, 2018 letter.

10 MR. PRICE: Yes, Your Honor. Thank you. And
11 the exhibits that go along with it include previous
12 correspondence. There's one in particular that we
13 have an interest in. It's Attachment 4, which
14 includes a screenshot of the Google Assistant setup.

15 THE COURT: There is no Attachment 2, letter
16 from Susan Molinari?

17 MR. PRICE: No, Your Honor. It's Attachment
18 4.

19 THE COURT: No, no, no. I'm in your exhibit
20 that you put in front of the Court. Right after
21 Senator Blumenthal's letter, there is a page that says
22 Attachment 2, letter from Susan Molinari. Received.

23 MR. PRICE: We do not need to introduce that
24 into evidence.

25 THE COURT: Because it's not there, right?

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233

1 MR. PRICE: I have not seen it.

2 THE COURT: Well, it's your exhibit. Then
3 there is -- yes.

4 MR. SIMON: Judge, it's a part of our book,
5 and it's what we've seen. And certainly if we're
6 going to introduce the letter from the senators, we'd
7 certainly want Google's statement to the Quartz
8 article and the like.

9 THE COURT: All right. So there are four
10 attachments, and you're not objecting that the exhibit
11 goes in as presented because it will be the full
12 exhibit. Is that correct, Mr. Simon?

13 MR. SIMON: Correct, Judge. Thank you.

14 THE COURT: It will be admitted, then.

15 (Defense Exhibit No. 53 is admitted into
16 evidence.)

17 MR. PRICE: Thank you, Your Honor.

18 BY MR. PRICE:

19 Q I just want to turn to the body of the letter here
20 because it seems to put Google on notice that Location
21 History has some -- that the Senate had some concerns
22 with Location History; is that correct?

23 A Just one point. Where this started was a walking
24 away from the AP article which came out after this
25 letter. This letter was sent on May 11. The AP

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234

1 article was from August, I believe, later that year.

2 Q The Quartz article, I believe, preceded this and
3 is cited in the letter --

4 A That's correct.

5 THE COURT: He's correct about the AP
6 article; right?

7 MR. PRICE: Pardon me?

8 THE COURT: He's correct about the AP
9 article.

10 BY MR. PRICE:

11 Q You are correct about the AP article.

12 A Okay. Because I just wanted to be clear. When
13 you had previously asked me was I aware of additional
14 scrutiny, I said yes. Then you referenced this
15 letter, but this letter was written before that
16 article.

17 So this letter was in response to the Quartz
18 article, not the additional scrutiny that came as a
19 result of the AP article.

20 Q Yes.

21 A Okay.

22 Q The letter criticized Google's Location History
23 practices for -- this is 38 -- frequently
24 mischaracterizing the service and degrades the
25 functionality of products in order to push users into

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235

1 providing permission, so says the letter.

2 Would you agree that's what it says?

3 A That's what it says in the letter, yes.

4 Q And the letter also says that these factors raise

5 serious concerns -- raise serious questions about

6 whether users are able to provide informed consent.

7 Were you aware of that criticism, as well?

8 A That's what is in the letter, yes.

9 Q And I don't mean to be belabor this, but it does

10 go on to say that Google's policies and explanations

11 raise questions about their characterization of basic

12 consumer protection terms, such as opt-in, opt-out,

13 notice, consent, and anonymization according to the

14 letter?

15 A That is what's in the letter, yes.

16 Q The letter calls the consent process confusing,

17 42?

18 A That is what's in the letter, yes.

19 Q And it cites Attachment 4. Attachment 4 -- is

20 that correct? It cites Attachment 4?

21 A That's correct, yes.

22 Q And is this Attachment 4?

23 A I'm sorry. I didn't hear the question.

24 Q Is this Attachment 4?

25 A Yes, that is Attachment 4.

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236

1 Q What does it show?

2 A This is one of the Google Assistant permission
3 prompts.

4 Q And that includes Location History; correct?

5 A At that time it included Location History, yes.

6 Q The letter goes on to add that most consumers do
7 not understand the level of granularity and reach of
8 Google's data collection, and that there's serious
9 questions about whether they have provided informed
10 consent and maintain reasonable ability to avoid
11 participating in this collection. Are you aware of
12 that criticism, as well?

13 A That is what's in the letter, yes.

14 Q And the letter concludes by asking the FTC to open
15 an investigation into the potential deceptive acts and
16 practices used by Google to track and commoditize
17 American consumers. Are you aware that the letter
18 called for an investigation?

19 A I am aware that that is what's in the letter, yes.

20 Q So in addition to the news articles, and the
21 Senate inquiry, Google got sued over Location History
22 in 2018. Are you aware of that?

23 A Which particular case are you referring to?

24 Q The case is called *In re: Google, Location*
25 *History Litigation*. It's a class action out of the

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237

1 Northern District of California.

2 A Yes.

3 Q I'd like to show you Defense Exhibit 26. Is this
4 the complaint in this case?

5 A Yes.

6 Q And you're aware of the complaint in the lawsuit?

7 A I am aware of this complaint, yes.

8 MR. PRICE: Your Honor, I would move to
9 introduce the amended complaint for -- not for the
10 truth of the matter, but for the fact that it exists.

11 THE COURT: Is there an objection?

12 MR. SIMON: Judge, I'd object to relevance.
13 Obviously, it's hearsay through and through. But
14 moreover, what we have, and the United States wouldn't
15 object to things like the exhibit emails that are
16 going to come from *Google v. Arizona* that shows
17 communications between Google as a part of that
18 litigation internal discussions. This is literally
19 just some class action lawyer, presumably in
20 California, that decided to go after Google.

21 The fact that it exists, the witness just
22 admitted it. Putting it in the record, I think, does
23 nothing more than continue sort of a broadside against
24 Google more than just the article. This is just
25 accusing Google of all kinds of things. And I don't

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238

1 see any relevance to this being in the record.

2 THE COURT: These are just allegations. Why
3 do we need to know -- has this class action completed?

4 MR. PRICE: It hasn't, Your Honor. The
5 reason that we are talking about these things is
6 because things like the newspaper articles, the
7 congressional inquiries, and the lawsuits appear to
8 have changed Google's behavior, changed Google's
9 policies, and, in particular, have something to do
10 with the relevant changes here to the Location History
11 language.

12 So we're trying to establish what happened,
13 what changed, why, and whether it was sufficient.

14 THE COURT: Well, I'm not going to admit this
15 yet until you establish some fact that Google did that
16 somehow you can say comports with something in the
17 complaint. And even then, I'm not sure. These are
18 just allegations. This is not -- this is not relevant
19 to facts of what we need to consider in this case
20 except that Google knew that the suit was ongoing and
21 that it was about Location History.

22 So I'm going to sustain that objection.

23 MR. PRICE: Okay.

24 BY MR. PRICE:

25 Q Mr. McGriff, you're still aware of the lawsuit;

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239

1 correct?

2 A I am aware of this lawsuit, yes.

3 Q It was filed just three days after that Associated
4 Press story on August 17?

5 A I don't know how I would know.

6 Q It's right at the top of the page.

7 A If the date is there, then that's when it was
8 filed, yes.

9 Q The main allegation here, and I don't mean to
10 belabor this point either, is that Google "retains and
11 continues to collect location data" --

12 THE COURT: Are you quoting from the
13 complaint? Because I just said it's not admissible.

14 MR. PRICE: I'm not admitting it, Your Honor,
15 I'm just trying to establish --

16 THE COURT: You're quoting it. You're
17 admitting it by saying it.

18 MR. PRICE: Okay. I'll move on.

19 Your Honor, the allegations in this case, we
20 understand that they are allegations.

21 THE COURT: What I said is, if you can show
22 something that happened later that Google did that
23 then you can show was alleged in this complaint, and
24 there's some temporal proximity, then it is possible
25 that this would be admissible. If you don't show yet

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240

1 that there has been a change, no, it's not admissible.

2 MR. PRICE: Okay.

3 BY MR. PRICE:

4 Q There has been some discussion at Google since at
5 least 2017 about changing the Location History
6 language on the opt-in screen; is that correct?

7 A Are you referring to the consent or are you just
8 referring to -- what language are you referring to
9 specifically?

10 Q The language for opt-in to Location History
11 through apps in particular or at setup where it says
12 "Saves a private map of where you go." That language
13 changed; correct?

14 A There has been discussion for the life of the
15 product about what is the best copy to relay what the
16 feature does, yes.

17 Q And you're aware that there are hundreds of pages
18 of emails and documents that have been submitted to
19 the Attorney General in Arizona discussing these sorts
20 of changes?

21 A Yes, I am aware.

22 Q Specifically, on February 2, 2017, there's an
23 email in which some Google engineers called Location
24 History a mess. Does that sound familiar to you?

25 A I can't recall that specific copy, but if it's in

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241

1 an email or document somewhere --

2 Q Perhaps I can refresh your recollection. Can I
3 show you Defense Exhibit 36, please. It's up on your
4 screen, as well.

5 A Just one clarification point. The screen has a
6 black box on the side, so I can't see the text on the
7 side, which is why I keep looking in the book.

8 I do see it on there as well, though.

9 Q I don't know how to --

10 A It's fine. I follow along with the book, but
11 that's why I keep looking to the book and not the
12 screen. It cuts it off.

13 Q Okay. So you can see there in the book?

14 A Yes.

15 Q And you can see that a little bit later on in that
16 chain another Google employee described the location
17 products as a "work in progress," and that Google was
18 "trying to rein in the overall mess that we have with
19 regards to data collection, consent, and storage"?

20 A That is what's mentioned in this, I guess, email
21 exchange, yes.

22 Q And you have another Google employee who says,
23 "How can we do a great job of respecting people's
24 privacy when they don't want to share their location?"

25 A That is what's written in the exchange, yes.

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242

1 Q And the same person says, "Can we have a
2 foreground only model? Lots of users don't care about
3 Location History."

4 A That is what's mentioned in the exchange, yes.

5 Q What's a foreground only model?

6 A I cannot even feign to understand what this person
7 is referring to.

8 Q Does it refer to apps that are actively running as
9 opposed to passively in the background?

10 A I believe what -- well, it's conflating several
11 points. It's speaking to foreground only collection,
12 which would be app specific, which is inherently not
13 the nature of what Location History is or how its
14 collection works. So this person is offering
15 suggestions.

16 Q Okay. Thank you. A little bit later in that
17 exchange, you can see at the bottom of your screen, it
18 says -- there's another Google employee who wrote, "Do
19 users with significant privacy concerns understand
20 what data we are saving? Do they know how to control
21 when we store location information?"

22 A That is a question asked in the exchange, yes.

23 Q And then, finally, you have a Google employee
24 writing, "We have Location as a product umbrella that
25 includes Location History and a bunch of other stuff

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243

1 that's super messy. And it's a Critical User Journey
2 to make sense out of this mess"?

3 A That is what's in the article or exchange, yes.

4 Q This is what Google employees were discussing in
5 2017 or is a recognition that there was a problem?

6 A There was some discussion about Location History,
7 yes.

8 MR. PRICE: Sorry, Your Honor. Can I have
9 one second?

10 THE COURT: Pardon me?

11 MR. PRICE: May I have one second?

12 THE COURT: Sure.

13 MR. PRICE: Your Honor, I would move to admit
14 Defense Exhibit 36 into evidence, please.

15 THE COURT: Objection?

16 MR. SIMON: No objection, Judge.

17 THE COURT: Okay, it will be entered.

18 (Defense Exhibit No. 36 is admitted into
19 evidence.)

20 BY MR. PRICE:

21 Q I'd like to turn your attention to Defense Exhibit
22 40. This is another February 2017 thread where a
23 Googler says, "Personally, I can't think of a world
24 where we do a good and thorough job with runtime
25 permissions across Google apps that doesn't confuse

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244

1 the hell out of our users." Are you aware of that
2 email.

3 A I'm aware that that is a statement in this email,
4 yes.

5 MR. SIMON: Judge --

6 MR. PRICE: I would like to move Defense
7 Exhibit 40 into evidence, as well, Your Honor.

8 MR. SIMON: Judge --

9 THE COURT: Is there an objection?

10 MR. SIMON: Judge, I would only ask -- I'm
11 not going to object to it being admitted, but a lot of
12 these emails, including Defense Exhibit 40, has
13 multiple pages, and I recognize that there's been prep
14 here, but just to give the witness a second to look at
15 the pages before pointing out the one sentence would
16 be, I think, helpful.

17 THE COURT: That makes good sense.

18 So this is Defense 40, which is marked as
19 Exhibit 236 in the first page. And I'm going to enter
20 it into evidence.

21 And I will say, with your last set of
22 questioning, you were going back and forth from one
23 page to a page previous, and that was confusing. So I
24 agree that you should be clear and certainly allow
25 Mr. McGriff time to absorb it.

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245

1 MR. PRICE: Thank you, Your Honor.

2 (Defendant's Exhibit No. 40 is admitted into
3 evidence.)

4 Q This is page 5 of that PDF, of Exhibit 236.

5 THE COURT: I confused us by saying 236.

6 It's 236 in the Arizona case. We should use our own
7 exhibit numbers.

8 BY MR. PRICE:

9 Q So page 5 of Defense Exhibit 40.

10 MR. SIMON: Judge, I don't think we have
11 exact page numbers. The bottom right of all of these
12 *Google v. Arizona* emails what appears to be, like, a
13 Bates stamp in their last five or three numbers,
14 however you want to say it, but it looks like, you
15 know, for this email it starts -- is this 236?

16 MR. PRICE: We can move on. I actually don't
17 have any other questions about this chain.

18 THE COURT: Well, you just quoted something.
19 Why don't you put on the record where you quoted it
20 from. Something about "I can't imagine where," blah,
21 blah, blah.

22 BY MR. PRICE:

23 Q This is the fifth physical page.

24 THE COURT: Look at the Bates number on the
25 bottom right. You can also identify it by what the

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246

1 first sentence is at the top of the page.

2 MS. KOENIG: It's not showing me the exhibit,
3 Kathy.

4 THE CLERK: I think you must have turned it
5 off.

6 MS. KOENIG: Let me unplug it and try it
7 again. There we go.

8 BY MR. PRICE:

9 Q Do we have it here? So this is the page that is
10 Bates stamp No. GOOG --

11 THE COURT: Just the last five digits.

12 MR. PRICE: 27381.

13 THE COURT: Thank you. And what did you
14 place into the record?

15 MR. PRICE: I'll read it again. It says,
16 "Personally, I can't think of a world where we do a
17 good and thorough job with runtime permissions across
18 Google apps that doesn't confuse the hell out of our
19 users."

20 THE WITNESS: I don't think that's on that
21 page.

22 THE COURT: No, it's not.

23 MR. PRICE: 27379.

24 THE COURT: All right. It's in the first
25 full paragraph of 27379 that has a large redacted

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247

1 block right before it, and it's sent, Monday,
2 February 27, 2017, 23:37:44. All right. Now we know
3 where you are.

4 MR. PRICE: Thank you for your patience.

5 BY MR. PRICE:

6 Q So, in addition to these 2017 emails, Google
7 employees responded to the AP article in 2018, as
8 well; correct?

9 A Is there a specific response you're speaking to or
10 just generally that we were aware of the AP article?

11 Q Well, I'd like to show you Defense Exhibit No. 32.
12 Do you have it?

13 A Yes, I do.

14 Q Great. So, you recognize this as an email chain
15 in which Google employees are expressing concerns over
16 the AP article?

17 A The entire exchange is redacted except for one
18 section.

19 Q There's one section that's not redacted from
20 August 13, 2018 at 9:38 a.m.

21 A That's correct.

22 Q And you recognize that as an email in response to
23 the 2018 Associated Press article?

24 A That's correct, yes.

25 Q Okay. The email says that Google employees -- and

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248

1 this is the page we're looking at here. It's page 4
2 of the PDF.

3 THE COURT: No, it is Bates No. 1523.

4 MR. PRICE: Bates No. 1523.

5 THE COURT: We do not have page numbers on
6 the PDFs.

7 MR. PRICE: That is true.

8 BY MR. PRICE:

9 Q So on the page marked 1523, the email says that
10 Google employees had what they called an "Oh Shit"
11 meeting -- excuse my language, Your Honor -- meeting
12 about the AP article; is that correct?

13 A It is my understanding that that is a regular
14 meeting that that team has.

15 Q That's a regular meeting that the team has?

16 A That's correct. That's why it says "our Monday
17 morning 'Oh Shit' meeting."

18 Q Good to know. It says, "Both comms and policy are
19 looking for an update on where we are in terms of
20 fixing Location History." Is that what it says?

21 A That is what it says, yes.

22 Q And Google prepared a PowerPoint of the impact of
23 this AP article on Location History; is that correct?

24 A Is that an exhibit that I can --

25 MR. PRICE: Actually, I apologize, Your

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249

1 Honor. Before we move on, I would like to introduce
2 Defense Exhibit 32 into the record.

3 MR. SIMON: No objection, Judge.

4 THE COURT: All right. It will be moved into
5 evidence.

6 (Defense Exhibit No. 32 is admitted into
7 evidence.)

8 MR. PRICE: As well as Defense Exhibit 40.

9 MS. KOENIG: I'm sorry. We did that one.

10 MR. PRICE: We did that one. Okay.

11 THE COURT: 40 you're not objecting to?

12 MR. SIMON: Without objection, Judge.

13 THE COURT: It will be entered.

14 (Defense Exhibit No. 40 was admitted into
15 evidence on page 244.)

16 BY MR. PRICE:

17 Q So Google prepared a PowerPoint presentation of
18 the impact of the Associated Press article on the
19 Location History product; is that correct?

20 A Are you referring to a specific PowerPoint?

21 Q I am. I'll bring it up as Defense Exhibit 33.
22 It's from August 16, 2018.

23 A Yes, a PowerPoint was prepared for this incident
24 as we would for any incident.

25 Q And we are on Bates No. 01458, Your Honor.

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250

1 THE COURT: Uh-huh. Thank you.

2 BY MR. PRICE:

3 Q One slide here -- and this is 56, Laura -- shows a
4 large jump in searches for -- that's Location History.
5 It's Bates No. 01475.

6 THE COURT: 47 --

7 MR. PRICE: Five.

8 THE COURT: Five. Okay.

9 Q Are you aware?

10 A Yes, I'm aware that this slide quotes a spike
11 here, yes.

12 Q It shows a very large increase in the number of
13 search queries related to Google Location History; is
14 that correct?

15 A That's correct.

16 MR. PRICE: I'd like to move Defense Exhibit
17 33 into evidence.

18 THE COURT: Any objection?

19 MR. SIMON: No objection.

20 THE COURT: It will be entered.

21 (Defense Exhibit No. 33 is admitted into
22 evidence.)

23 BY MR. PRICE:

24 Q In fact, I don't know if this is surprising or was
25 surprising to you, but Google has never actually

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251

1 advertised Location History to its users; is that
2 correct?

3 A Can you clarify what you mean by "advertise"?

4 Q Sure. I'll show you Defense Exhibit 34. Tell me
5 when you have it.

6 A 34, yes.

7 MR. PRICE: Let us get the Bates stamp number
8 for you, Your Honor, before proceeding. I do not
9 believe -- so this does not have Bates stamps, but it
10 is on page 37 of the actual document.

11 BY MR. PRICE:

12 Q Do you have it?

13 A Yes.

14 Q Okay. It says, As of today, we have not located
15 online advertisements for Location History or Web &
16 App Activity. If we locate any such responsive
17 materials, we will promptly produce these
18 representative examples.

19 So the question is whether Google has ever
20 advertised Location History to its users?

21 A I see. So it's specifically referencing
22 newspapers ads, magazines ads. In that context, no,
23 we have not run any newspaper ads or magazine ads that
24 I'm aware of, no.

25 Q Thank you.

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252

1 MR. PRICE: Your Honor, I'd like to move
2 Exhibit 34 into evidence as well.

3 THE COURT: Any objection?

4 MR. SIMON: No objection, Judge.

5 (Defense Exhibit No. 34 is admitted into
6 evidence.)

7 BY MR. PRICE:

8 Q Referring to Location History settings, Google
9 employees once again emailing, and this is Defense
10 Exhibit 30, had some more to say about the Associated
11 Press article. Can you go down? All right.

12 So this is page 7 of the actual PDF, and we'll get
13 a Bates stamp number in a second. It is Bates 01271.
14 Are you aware of these emails? These are from
15 August 14, 2018.

16 A I see that these are emails, yes.

17 Q And they're referring to location settings. You
18 have one Google employee here who writes, "It's a bit
19 complicated, and we might need better messaging." Do
20 you see that?

21 A That is what the message says, yes.

22 Q Are you aware of that?

23 A I see that now, yes.

24 Q And another Google employee wrote -- this is on
25 Bates 01270. Another Google employee wrote, "I agree

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253

1 with the article. Location off should mean location
2 off; not except for this case or that case." Do you
3 see that on the email?

4 A I see that that's what's written here.

5 THE COURT: Where is it?

6 MR. PRICE: This is Bates -- there you go.

7 THE COURT: I got it.

8 BY MR. PRICE:

9 Q And then it goes on to say, "The current UI" --
10 what's UI?

11 A User interface.

12 Q "The current UI feels like it is designed to make
13 things possible, yet difficult enough that people
14 won't figure it out. New exceptions, defaulted to on,
15 silently appearing in settings menus you may never
16 see."

17 So these are all responses to -- Google employees
18 responding to the 2018 AP article; is that correct?

19 A These are people responding to the AP article,
20 yes, that's correct.

21 Q Great.

22 MR. PRICE: Your Honor, I would like to
23 introduce Defense Exhibit 30 into evidence, please.

24 MR. SIMON: Judge, I would ask to -- I would
25 object to a fair amount of this coming in. So I

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254

1 wouldn't object to 1266 through 1271, that top email
2 on 1271, getting in, but if the Court looks through
3 1271 through 1287, it's a lot of talk about stuff that
4 I don't think -- well, it's not relevant at all. The
5 former President in is there, China restrictions in
6 there, Elon Musk, a lot of stuff that should be
7 redacted if the Court's going to allow this to be
8 introduced.

9 I would note that I think Defense Exhibit 35
10 is a cleaner version of this. I could be wrong on
11 that. But either way, I'd ask for the Court to admit
12 it subject to the extraneous emails at the bottom
13 starting on 1271 through 1287 being cut out.

14 MR. PRICE: I don't think we have a problem
15 with that either. We have no intention of asking
16 about Elon Musk or the former President.

17 THE COURT: All right. So the bottom half of
18 1271, which starts with "On Monday, August 13, 2018,"
19 blocked out entity "wrote," and the remainder of the
20 exhibit will be excluded and not entered into
21 evidence.

22 I agree that there seems to be some
23 duplication in Exhibit 35.

24 MR. PRICE: Yes, Your Honor. These emails
25 are duplicated in multiple places. The reason that we

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255

1 chose to use this version of it was because it
2 included the original formatting from those emails.
3 So you're more able to see who's writing what, which
4 people.

5 THE COURT: Okay. So the front part from
6 1266 to the top of 1271 and the cover page, which has
7 no number, will be admitted. And the rest is
8 excluded.

9 (Defense Exhibit No. 30 is admitted into
10 evidence.)

11 BY MR. PRICE:

12 Q In fact, this email chain continues in Defense
13 Exhibit 31, and it is not all contained in one
14 exhibit. So I direct your attention, Mr. McGriff, to
15 Defense Exhibit 31, which is the same thread of emails
16 from August 14, 2018. And this is Bates 01289. Let
17 me know when you have it.

18 A I have it, yes.

19 Q So one Google employee writes that it is
20 "Definitely confusing from a user point of view if we
21 need googlers explain it to us."

22 And a little bit further down. Is that correct?
23 Sorry.

24 A That is what it says, yes.

25 Q And a little further down, user adds or an

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256

1 employee adds -- this is Bates 01290. "Also seems
2 like we are not very good at explaining this to
3 users." Going on -- is that correct?

4 A That is what it says.

5 Q And then another Google -- the same Google
6 employee writes, "Indeed we aren't very good at
7 explaining this to users. Add me to the list of
8 Googlers who didn't understand how this worked and was
9 surprised when I read the article."

10 A That is what was written there, yes.

11 Q So these are Google employees who are reading this
12 article and are surprised to learn how Google's
13 location settings actually work?

14 A I would frame it as this is a group of Googlers
15 commenting on the interaction of Google settings, yes.

16 Q That same employee goes on to say, "Of course, we
17 shouldn't have to explain this to users. The real
18 failure is that we shipped a UI that confuses users
19 and requires explanation"; correct?

20 A That is what it says, yes.

21 Q And that person goes on to suggest that "We should
22 redesign the UI so it's obvious what's happening, and
23 make it easy for users to choose the settings they
24 want in one place without parsing complex details
25 about product interactions." Is that what it says?

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257

1 A Yes. I have no idea what UI they are talking
2 about, but that is what it says.

3 Q And there's only one more thing that we can read
4 on this chain. One more user just wrote, "Please
5 don't comment!"

6 A That is what is written, yes.

7 Q So from these emails -- excuse me one second.

8 MR. PRICE: Your Honor, I would like to move
9 to admit Defense Exhibit 31, please.

10 THE COURT: Objection?

11 MR. SIMON: Judge, subject to the same
12 objection, there's a lot of extraneous talk. I think
13 it's at all extraneous between 1293 and 1309. So we
14 wouldn't object to admitting it but cutting out those
15 pages.

16 MR. PRICE: That's acceptable to us, as well.

17 THE COURT: All right. It will be admitted
18 through 1292, and not 1293 through 1309. I have an
19 extraneous document in here, I think. It looks to be
20 a LexisNexis search. Does somebody have that at the
21 end?

22 MS. KOENIG: It was probably my putting this
23 together too hastily, Your Honor.

24 THE COURT: All right. Well, to the extent
25 it just looks as if somebody looked up a particular

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258

1 case, it seems unrelated. So that will not be
2 admitted either.

3 MR. PRICE: Thank you, Your Honor.

4 (Defense Exhibit No. 31 is admitted into
5 evidence.)

6 BY MR. PRICE:

7 Q Okay. So following the AP story, following -- the
8 Google employees wrote to each other about this issue
9 over Location History; correct?

10 A Employees discussed the article, yes.

11 Q And then Google changed its privacy policy --
12 correct? -- in May of 2018?

13 A The privacy policy?

14 Q Uh-huh. On May 25, 2018, Google issued an update
15 to its main privacy policy. Are you aware of that?

16 A I don't recall that.

17 Q Perhaps I can refresh your memory.

18 MR. PRICE: Can we see Defense Exhibit 43,
19 please.

20 Q I'm showing you a redline version of the policy
21 when it was enacted on May 25.

22 A Okay. Sorry. This is not -- okay, yes. There
23 was a privacy policy update in May, yes.

24 Q And this is the privacy policy that was updated?

25 A Yes, this is a privacy policy update from

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259

1 May 2018.

2 Q Okay. And the previous one had --

3 A But -- sorry. I guess why I'm confused, this
4 privacy policy that you're referring to here was
5 before the AP article.

6 Q I'm sorry. It was a change before the AP article
7 after the Senate inquiry and after the Quartz article;
8 is that correct?

9 A I'm sorry. There was -- the -- I think these
10 things are orthogonal. The privacy policy was updated
11 full stop independent of inbound letters specifically
12 from senators about Location History.

13 Q I'm not saying that -- I'm not asking you if one
14 caused the other. I'm just asking if this was the
15 privacy policy --

16 THE COURT: Well, you sort of are. You're
17 saying after the AP article, Google updated its
18 privacy policy. So you're suggesting there is a
19 relationship. So let him answer the way he wants to
20 answer.

21 A Yeah. These are orthogonal events. There are
22 many moving pieces happening all the time. I assure
23 you, there's no way Google updated its privacy policy
24 in two weeks. If the Senate letters were May 11, this
25 is May 25. So this privacy policy update must have

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260

1 been well in flight well before those letters were
2 received, which would not be related to the AP article
3 or the communication in that group digest about
4 response to the AP article.

5 So I guess that's why I'm just saying they're
6 orthogonal. There are a series of things that
7 happened in the arc of everyone is always making
8 further improvements, yes.

9 Q And Google had been talking about making changes
10 for quite some time to this language going back to at
11 least 2017, as we discussed earlier; correct?

12 A In the privacy policy?

13 Q The Location History language.

14 A For the life of the product we have -- every
15 Google product we are always looking for ways that we
16 can provide further transparency and clarity.

17 Q Does the feedback that you receive either in the
18 press or from members of Congress impact those
19 discussions?

20 A I think all feedback informs those discussions on
21 a regular basis, yes.

22 Q All right. Great. This privacy policy change
23 happened on May 25, 2018; is that correct?

24 A That's correct, yes.

25 Q Okay. And you recognize this privacy policy

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261

1 change?

2 A I have not looked at this in some time. Is there
3 a specific section?

4 Q Yes, I just want to admit this. So I would like
5 to know if you recognize this as Google's privacy
6 policy from May 25, 2018?

7 A I could not certify that this is the privacy
8 policy as it stood on May 25, 2018. It does appear to
9 be some iteration of the privacy policy at some point,
10 but that was several years ago now.

11 Q It says that the -- if you go back up to the
12 top --

13 THE COURT: Is there objection to him using
14 this at the very least as a demonstrative exhibit? I
15 mean, this is essentially how this witness has
16 identified most of these exhibits. It's not being
17 offered for the truth of the matter. It says it's
18 May 25. It's a redline version. Can we at least
19 treat it on that basis?

20 MR. SIMON: Yes, Judge. Yes.

21 THE COURT: Okay. So it's admitted on that
22 limited basis.

23 MR. PRICE: Thank you, Your Honor.

24 (Defense Exhibit No. 43 is admitted into
25 evidence.)

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262

1 Q It says that the previous policy had been in
2 effect since December 18, 2017, right up at the top
3 there.

4 THE COURT: You really have to --

5 MR. PRICE: Sorry.

6 BY MR. PRICE:

7 Q I'm at the first page at the very beginning where
8 it says "last modified," right underneath "privacy
9 policy." There's December 18, 2017 crossed out, and
10 the next date there that's not crossed out is May 25.

11 A Oh, I see. That is the crossed out date. This
12 shows that this was an update after the December 18,
13 2017 update, yes, that's correct.

14 Q Are you aware that the previous policy, the one
15 that was in effect until December 18, 2017, did not
16 mention Location History whatsoever?

17 A I was not aware of that, no.

18 Q Were you aware that this is the first version that
19 mentions Location History by name?

20 A Can you point me to the context where this
21 introduces Location History?

22 Q Yes. We are on page -- it was 7 of the PDF
23 itself. It doesn't come with its internal page
24 numbers.

25 THE COURT: So just say what headings are on

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263

1 it so we can look through the document quickly.

2 BY MR. PRICE:

3 Q It's under the heading "Your location
4 information." I'm at the bottom of the page that
5 contains that heading.

6 A I would have to check to confirm, but that does
7 not ring correct to me, because we do have -- on the
8 location policies page, there is a mention and has
9 been a mention of Location History. We did make an
10 update to that page to further refine the language
11 around Location History in 20-- either later 2018 or
12 early 2019, but that was a refinement to existing
13 copy, not the introduction of.

14 In this particular draft where you have
15 redactions, is there a suggestion that all of this
16 content is new?

17 Q There shouldn't be any redactions --

18 A Sorry. Not redactions. I meant the crossed out
19 copy.

20 Q This is Google's redline. It's available on their
21 website. The crossed out language is the old
22 language, and the language that isn't crossed out is
23 the new language.

24 THE COURT: Okay. I'm still not with you,
25 unfortunately. So what part of the page is your

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264

1 Location History on? Is it your --

2 MR. PRICE: "Your location information."

3 THE COURT: All right. Now I'm with you.

4 BY MR. PRICE:

5 Q Just to clarify, I'm asking about the privacy
6 policy that we're looking at, not the help pages.

7 A I understand. And this might just be my
8 misunderstanding of how it's structured or maybe how
9 it's labeled externally, but we do have on the broader
10 company policy's page under "technologies," there's a
11 whole section about location usage. That copy was
12 refined, but it existed, which is why I'm surprised.
13 I would need to check.

14 Q The copy that you're describing, is that the same
15 as the privacy policy or is that that something
16 different?

17 A There's a broader privacy policy that has
18 sections, and one of those sections is like a
19 subsection. It's, like, policies.google.com/location
20 or [technologies/location](https://policies.google.com/technologies/location), something like that. And
21 there exists a description of the location copy. That
22 was refined in this time period. It wasn't
23 introduced.

24 Q The technologies page and the copy that is there
25 is not included in the privacy policy itself?

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265

1 A I believe it is a part of the privacy policy
2 because I think you have to go to the privacy -- I'd
3 have to check. I don't know.

4 THE COURT: He's not giving you the answer
5 you want. He's not able to say that this is the first
6 time it ever appeared. What he has just testified is
7 that there is some kind of web policy that he is aware
8 of, and he just said, I would be surprised if this
9 were the first time it were in the privacy policy
10 because I'm aware that we had it in a bigger website
11 policy that had been refined.

12 So you just didn't get the answer you wanted,
13 even though you're going to argue that because it
14 doesn't have strike-throughs, this was the first time
15 it came in. He's given you the answer he has.

16 MR. PRICE: Thank you, Your Honor. We will
17 move on.

18 BY MR. PRICE:

19 Q Google changed the opt-in language for Location
20 History in 2018; correct?

21 A By opt-in language, do you mean the consent?

22 Q Yes.

23 A The Location History consent itself has not
24 changed.

25 Q The language in the consent flow didn't change at

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266

1 all during 2018?

2 A The consent flow is not the consent. The actual
3 Location History consent has not changed.

4 Q I'm speaking about the consent flow --

5 THE COURT: Why don't you show an example.

6 MR. PRICE: Laura, can we pull up

7 Mr. McInvaille's report.

8 BY MR. PRICE:

9 Q Let me turn your attention to Defense Exhibit 7.

10 MR. PRICE: Can you go up a little bit,
11 Laura?

12 BY MR. PRICE:

13 Q So we see a screenshot here from early in 2018.
14 The language under Location History says "creates a
15 private map of where you go with your signed in
16 devices."

17 A That's what is it says, yes.

18 Q Right. And can we go to the next figure, please.
19 This is a screenshot provided by Oracle, also in early
20 2018. And it says "creates a private map of where you
21 go with your signed-in devices."

22 A That is what it says.

23 Q Right underneath Location History.

24 Can we look at the third one from the Norwegian
25 Consumer Council from July 2nd of 2018? And in the

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267

1 middle screenshot underneath Location History, it
2 says, "Saves where you go with your devices."

3 A That is what it says, yes.

4 Q So that language is different from the previous
5 two screenshots that we just discussed?

6 A That is not the Location History consent copy,
7 which is in the expanded block in the third exhibit
8 you reference, but the descriptive copy did change,
9 yes.

10 Q And that changed in 2018; is that correct?

11 A That changed as a result of GDPR, yes.

12 Q Do you know when it 2018 it changed?

13 A When was -- I couldn't say exactly.

14 THE COURT: As a result of what? I'm sorry,
15 sir.

16 THE WITNESS: Sorry. One of the requirements
17 of GDPR was that we be able to centrally serve all
18 strings from a single data store. So part of our
19 compliance with that policy was to standardize all of
20 these strings because they were leading from the same
21 store. That work was in flight in 2018.

22 So depending on when the screenshots were
23 taken, you might see some slight variations as you
24 just pointed out in these two screens for the
25 descriptive copy itself, yes.

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268

1 THE COURT: All right. So GDPR?

2 THE WITNESS: That's the General Data
3 Protection Regulation.

4 THE COURT: Thank you.

5 BY MR. PRICE:

6 Q That was a new law enacted in Europe governing the
7 privacy rights of individuals and their data?

8 A That is correct, yes.

9 Q So -- but Google had been discussing the need to
10 change this particular language for quite some time;
11 correct?

12 A No.

13 Q No? You're not aware of the emails discussing the
14 need to change the "creates a private map" language?

15 A Sorry. I think some things are being conflated.
16 Which emails are you referring to?

17 Q These are part of the *Arizona v. Google* emails,
18 the emails that Google turned over to the Arizona
19 Attorney General.

20 A If I recall -- I would need to see the exchange,
21 because if I recall the exchange you're referring to,
22 it's referring to a different set of disclosures that
23 we were working to align our presentation, but is
24 there an example here?

25 Q Sure.

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269

1 MR. PRICE: Can we show Defense Exhibit 41,
2 please? And this is Bates 57339.

3 MR. DUFFEY: 379?

4 MR. PRICE: 57339.

5 A I see it, but to my previous point, this exchange
6 is referring to a different string of copy. It's not
7 referring to the -- what's being discussed at the
8 bottom is not related to the "creates a private map."
9 The "creates a private map" in quotes there is like
10 the language was just like a flag of the page where
11 this language appears, but this exchange specifically
12 was in reference to the conflation with WAA that was
13 discussed, which is why it was relevant in the Arizona
14 matter.

15 Q When did this copy appear that's being discussed?

16 A There's that descriptive string that says "saves a
17 map of the places where you go with your signed-in
18 devices" or "creates a private map." That is not what
19 we were discussing here. This exchange at the bottom
20 is specifically referring to -- yeah, this was
21 broader. I guess, maybe I'm not following the
22 connection.

23 Q Well, the consent flow, at least the initial
24 screen with the one-line description, changed sometime
25 in 2018. It used to say "creates a private map," and

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270

1 it doesn't anymore. This email exchange appears to be
2 talking about whether to change the "creates a private
3 map" language, which a Google employee describes as
4 one of the most admired pieces of prose in the privacy
5 space at Google.

6 A Okay. I'm just not following. I apologize. This
7 language is referring -- so, the exchange here is
8 referring very broadly to the descriptive copy, yes.
9 Maybe I'm missing the point. Sorry. What's the
10 question for me?

11 Q It says that Google had a long, mostly political,
12 fight over the private map language. I apologize.
13 It's on the next page.

14 THE COURT: 340?

15 MR. PRICE: Yes, Your Honor, in the middle of
16 the page.

17 A I'm sorry. That is what it says, yes.

18 Q And you don't recall what this is in reference to?

19 A No. It says what it's in reference to. This is
20 in reference to the descriptive copy. It's not
21 related to the Location History consent copy at all.
22 It's how exactly it's framed. And this discussion is
23 in the context of the alignment of all the copy
24 because we were going to consolidate and all read from
25 the same central store.

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271

1 Q So you're saying there was secondary copy, that
2 second screen that you're talking about, that
3 contained this language at some point?

4 A No. There's the LH consent copy, which has been
5 static. That has not changed. And then there was
6 descriptive copy that would appear in a snippet either
7 immediately before, and then there's also immediately
8 after.

9 In that time period, we were looking at refining
10 and aligning the descriptive copy strings because
11 prior to that point, they were all baked into the
12 native apps.

13 So if you had to make a change, for example, on
14 IOS, you had to submit an update to the app store. If
15 you had to make a change on Android, you had to
16 publish a new APK. We had to do it manually.

17 Part of what we were doing in 2018 was aligning so
18 that these were all readable from some single store.
19 And they weren't baked into the app. Instead the app
20 was just calling to say what string should I show in
21 this WAA.

22 So there was lot of discussion around how can we
23 further refine all of those strings to make them
24 consistent with each other in terms of their framing.
25 This exchange is specifically referencing, it sounds

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272

1 like, several of the different controls. So, yes,
2 several of the different controls and balancing the
3 pros and cons of different options.

4 They don't speak specifically to the consents
5 because the consents weren't being changed. It's just
6 simply to the descriptive copy around the consents.

7 Q So this is talking about a change to the
8 descriptive copy? That one line underneath where it
9 says Location History.

10 A The exchange is speaking to the descriptive copy
11 around the consent, that's correct.

12 Q And one employee actually goes on to say, "My
13 preference is 'Saves where you go with this device';
14 correct?

15 A Yes, I see that here.

16 Q And that is very, very similar to what the first
17 screen in the Location History consent flow, the
18 descriptive screen, ends up being changed to; correct?

19 A That is correct, yes.

20 Q So was it a coincidence?

21 A So, this is from 2017, January. So coincidence
22 with what?

23 Q That -- you're saying that this discussion is not
24 referencing a change to the Location History
25 description during the consent flow process.

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273

1 A I apologize. Maybe I'm getting confused. There
2 are always discussions in flight around how we can
3 further improve our products and services and further
4 clarify.

5 This discussion from 2017 is about changes that
6 might be suggested to, it looks like, various
7 controls, including Location History, to further
8 improve transparency around them. So that is that.

9 So, yes, it is a discussion across several
10 controls over further improvements that can be made to
11 their descriptive copy, yes. And then you're linking
12 this to the 2018 update? To the Location History
13 page?

14 Q No, I'm saying --

15 THE COURT: Exhibit 17, are you comparing it
16 back to Exhibit 17? That's his question. You showed
17 him Exhibit 17 -- Exhibit 7, your expert's report. Is
18 that what you're trying to carry it back to?

19 MR. PRICE: Excuse me? We're talking about
20 the -- I'm sorry.

21 THE COURT: The descriptive text on Exhibit 7
22 under Location History from 7-2-2018, which is how you
23 began this process, says "saves where you go with your
24 devices." Is that the link you're trying to make?

25 MR. PRICE: Yes. I'm asking if the

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274

1 discussion here had to do with the language that we
2 see in this language change that eventually happened
3 in 2018.

4 BY MR. PRICE:

5 Q My question for you initially was, a discussion
6 about this language had been in the works for quite
7 some time, since at least 2017.

8 A I see. So this is why -- I don't think you can
9 flatten it in the way that you're attempting to,
10 because of the screenshots being from a point in time.
11 For example, I could leave this courtroom right now
12 and go to a Best Buy and buy a device that's three
13 years old and take it off the shelf and take
14 screenshots. The images that I see would be taken
15 today but be a reflection of what was baked into that
16 device when it was shipped to the shelf three years
17 ago.

18 So the screenshots here, the date of the
19 screenshots is not sequential in terms of when we
20 release the copy updates. So the language decisions
21 being discussed here in your Exhibit 41 around "saves
22 a map," those were likely introduced into production
23 shortly after. It is highly probable that --
24 especially because these are from a series of
25 different sources with very different narratives and

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275

1 very different agendas.

2 Oracle is going to find the least favorable
3 example. And so they'll use a screenshot that's
4 beneficial to them. In a research study, they might
5 just choose to benchmark when they're looking across
6 several different sources. And they'll take
7 screenshots that were beneficial to them.

8 So from the screenshots alone, I can't say -- and
9 you can correct me if I'm wrong -- I can't say that
10 this change was before that change or was tied to the
11 Exhibit 41 discussion.

12 Based on reading these exchanges, this 2017
13 discussion was baked and put into prod, and at some
14 point percolate into -- I'm sorry. Into production.
15 And at some point percolated into product. These
16 screenshots are just at different points in time in
17 the life of the product.

18 So that is how you see the evolution here is not
19 directly tied to the previous things we've been
20 discussing, like the AP article or other changes that
21 were happening in 2018.

22 THE COURT: All right. We're done. So it is
23 10 minutes almost after when I said I have to leave
24 because I have a conference call that is an emergency.
25 And so I apologize for the abrupt ending, but we'll

McGRIFF - DIRECT

276

1 continue this tomorrow.

2 And, sir, you will still be under oath. You
3 can't discuss your testimony with anyone. That will
4 give us time. Maybe all of us will be a little more
5 clearheaded about what relates to what, not at
6 5 o'clock in the evening. And we'll pick up from
7 there. So the cross will continue.

8 I'm going to remind everybody to make sure
9 that your witnesses are sequestered. Can we start
10 tomorrow at nine?

11 MR. PRICE: Yes, Your Honor.

12 MR. SIMON: Yes, Your Honor.

13 MR. GILL: That's fine, Judge.

14 THE COURT: All right. So we will begin
15 tomorrow at nine. And if folks want to call in, they
16 may do so then.

17 Is there anything else I need to cover?

18 MR. SIMON: Nothing further, Judge.

19 MR. PRICE: Nothing further. Thank you, Your
20 Honor.

21 THE COURT: Okay. My apologies for this call
22 happening, but I have no control.

23 (The proceedings were adjourned at 4:55 p.m.)
24
25

1 I, Diane J. Daffron, certify that the foregoing is
2 a correct transcript from the record of proceedings
3 in the above-entitled matter.

4 /s/

5 _____
6 DIANE J. DAFFRON, RPR, CCR

DATE